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ECONOMIC PRINCIPLES FOR INDIAN READERS

A COURSE IN THE ELEMENTS OF ECONOMICS .

BY
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जोधपुर विश्वविद्यालय ग्रन्थालय

LONDON
SIR ISAAC PITMAN & SONS, LTD.
PARKER STREET, KINGSWAY, W.C.2
BATH, MELBOURNE, TORONTO, NEW YORK

1927

जोधपुर विश्वविद्यालय ग्रन्थालय

परिग्रहण संख्या

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PREFACE

As a teacher of economics in several universities in India I have constantly met with one great difficulty among the students who have primarily to depend upon books written by English and American authors, viz., that the principles of economics are explained with a background of social conditions and institutions which are alien to the experience of Indian students. They have to study the economic conditions of India separately from the study of economic principles. The two are not co-ordinated in their study because they are not placed in their proper relation in our textbooks. I have attempted to remedy this defect in the study of economics in India by developing the principles with Indian background and illustrating them from the facts of Indian economic life.

In a book like this, which is meant primarily for students, there is not much scope for anything which is new and original. My main effort has been directed towards explaining the fundamental principles in clear and unambiguous language. Therefore, I have generally avoided discussions of divergent opinions among economic writers, which tend more to confuse than to help the beginner. I have felt that a good grounding of the principles can be obtained by this method, which is of great use to students in pursuing the higher study of economics in which opinions and arguments of experts are to be tackled.

On a few topics there has been a departure from ordinary textbooks. I have put the definitions of ordinary economic terms in one convenient chapter. In economics the various branches are closely inter-related. It is impossible to deal with one branch without using terms which really belong to another topic. Students are usually confused if such terms are introduced without any previous explanation. For this reason the definitions have been

collated together towards the beginning of the book. Another point on which I have deviated from ordinary textbooks is the treatment of the law of diminishing return, which is usually treated as applicable to agricultural land. But this law is of universal application in production. I have, therefore, treated it as such along with the other laws of production and have particularly emphasized the relation of these laws. Again, Indian students rarely find the facts of Indian currency, finance, exchange, and co-operation in a convenient form in any of the text books that they have to read. For each of these there are separate books, but they are too big to be handled by the beginner. I have tried to put them in convenient forms to be readily useful to Indian students. In one case I have introduced a wholly new thing. In Chapter XXII I have developed and formulated a law of consumption which is my own.

It is to be hoped that the book will also be found useful by the wider public who have little time or opportunity to go to big books for a working knowledge of economic principles in general, and who will find them in the present book in handy form and in special relation to the economic facts of Indian life.

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ECONOMIC PRINCIPLES FOR INDIAN READERS

PART I INTRODUCTION

CHAPTER I

SUBJECT-MATTER OF ECONOMICS

POLITICAL Economy or Economics is the study of man's activities so far as these are directed towards the satisfaction of human wants. It deals with man as a social unit, and that part of him which can be reduced in terms of external advantages. "It is mainly concerned with the social aspect of such human activities as are directed towards the production, appropriation, and application of the material means of satisfying human desires, so far as such means are capable of being exchanged" (Sidgwick). In human conduct various motives come into play, e.g. patriotic, philanthropic, religious, etc. But economics deals with that motive, or series of motives, which actuates man in the business part of his life. This motive is also the most powerful and steady. It consists of the desire to have pay or reward for work done. It can be definitely measured by an external standard, viz. money. Therefore, economics deals with "incentives to action and resistances to action, the quantity of which can be roughly measured by money." This measurement refers to the volume and intensity of the desire, and has nothing to do with its quality. Thus economics deals with the real man, but only with that part of his activities which can be measured as above, and which he has as a member of the social organization.

Economics has a theoretical and a practical side, called respectively the science and the art of economics. The two sides cannot be rigidly separated, although for the sake of better study we divide them. The science of economics is closely related to the general science of society or sociology, while the art of economics is so related to the general art of government. Like all sciences the former deals with observed facts which can be quantitatively measured. Its subject matter of study is also homogeneous since the money motive crystalizes man's economic activities into one group. Economics being a social science, its data cannot be so definite as those of the physical sciences in which experiment and observation of the desired facts can be carried on in the laboratory. In this respect it rather approaches astronomy. The art of economics aims at improvement in production or more equitable distribution of the aggregate wealth of the community among its members.

Relation of Economics to Other Sciences.

From the above it will be seen that although economics studies man in his relations to other men, yet it does not study all such relations. In other words, economics is only one of the social sciences, of which the most general and fundamental is sociology. Hence the relation of the science of economics to sociology is very close, the latter dealing with the general social relations of man through all his life and history, the former dealing with only those which refer to wealth or well being in the narrow sense. Its relation to psychology is also one of dependence, because it deals with human conduct, which is largely influenced by the mind of man, the special study of the laws of which is the function of psychology. Similarly, as economic activity aims at satisfying human wants in all their varieties, and as these latter are the results of the growth of man as an animal developing in a particular physical environment, the science of economics, with regard to many of its

axioms and postulates, depends upon biology, the science of the physiological growth of animals, as economics does on psychology for his mental growth. The art of economics is again related to ethics, law, and politics. These seek respectively to formulate the private conduct, public conduct, and conduct as member of a political unit, of man, and every attempt at economic re-organization or development must be in harmony with their conclusions. This does not mean that economics is wholly dependent upon them, but it certainly is influenced in its application to the economic activity of man. The ascetic ideal of Buddhism, the social institutions like caste, the law of inheritance, have all their influence upon the direction and results of the economic activity of man.

It should be noted that although economics is thus related to several sciences most of which are social sciences, yet it is not the function of economics to investigate into their fundamental principles, which are simply taken by the economist so far as they serve his purpose.

Basis of Economic Life.

The economic life of man is caused by the fact that man has many wants which he must satisfy, e.g. his want of food leads him to the economic activity of raising wheat crops to satisfy it. It is clear, therefore, that there could be no economic activity, and consequently no economic life for man, if he had no wants. (Thus want is the most fundamental factor upon which the whole structure of economics rests.) But to satisfy his wants man has to work and get things. Therefore, between his wants and their satisfaction there stands effort which enables him to get proper things in the forms in which they can satisfy his wants.

Between his wants and effort or activity there is a vital connection. Of the former some are so pressing and inherent in man, e.g. hunger, shelter, clothes in cold climate, that these must be satisfied if man wants to live at all. The need for the satisfaction of these leads him to activity.

But as the more pressing wants are more or less satisfied, he develops new wants which were less pressing in the face of the older wants. Also there is variety in his wants. The want for food being satisfied, he looks for more varied and tasteful food. So also in shelter, clothes, etc. Man seeks this variety and complexity partly to avoid monotony, and partly for other impulses by which he is actuated. Some of these latter are desire for display, distinction, hospitality, variety, etc.

Then there appears activity for its own sake, which leads to new wants. The inventor makes a bicycle or a motor-car, being impelled by his genius for invention. But when it is made the desire for a bicycle or a motor-car appears in other men and they want it.

Thus the wants of man may roughly be divided into three main groups, viz (1) Human wants of the body, the characteristic of which is that each particular item is limited and easily satisfied, but there is no limit to the variety. (2) Human pleasure seeking which arises out of man's desire for display, distinction, excellence, etc. This includes all his conventional wants, e.g. costly dress or food. (3) Human wants of the mind, viz the cultivation or education and fruitful exercise of the mental and moral faculties, e.g. the work of the scientist, the artist, etc.

Each of the above wants takes a special characteristic form from certain rational elements in man's nature. Thus hunger in man is very much unlike that in other animals, giving rise to various social enjoyments. This is due to man's innate sociability of nature.

We thus find that in the beginning when his more pressing wants remain to be satisfied man's activity follows his wants. But afterwards, especially with regard to his higher life, activities also give rise to new wants which again lead him to fresh activities.

This relation of want to activity is, however, not so simple in modern life. The savage who himself produces things for his wants gets satisfaction out of his own direct

effort, so that there is no gap between his wants and their satisfaction by his own exertions. But in more complicated life of modern times it is not possible for man himself to produce all that he wants. Therefore, he produces only a few things, the quantity of which is much in excess of what he requires to satisfy his wants with regard to them, while he does not produce many other things his need for which is great. These he can get by exchanging his surplus stock for the surplus stock of other persons. Thus between his wants and their satisfaction a big gap is created, and the complex machinery of exchange is introduced by which the distribution of the concentrated products is effected, and each member of the community gets all that he wants by exchanging his own surplus stock.

Growth of Economic Freedom.

In this development of modern economic activity each man seeks to produce, alone or in co-operation with others, those articles for the production of which he is especially fitted by aptitude, training, and experience. Thus in order to facilitate each man seeking his own plane of economic activity, it is necessary that he should have freedom to pursue a calling and, in this behalf, to co-operate with other persons according to his choice. This freedom, however, has been a matter of slow growth. The worker had to pass through several stages before he reached the modern condition of comparative freedom. These stages are those of (1) slavery when the worker has no freedom whatsoever; (2) serfdom when his personal freedom is partially recognized but his activity is mostly regulated by his master; (3) free labour under custom, when he is free but follows the tradition of the community in which he is born; and (4) free labour under free competition when he can pursue any profession if he has the ability for it, and the requisite knowledge and experience to choose what is best for him out of a multitude of heterogeneous processes to one of which he must apply himself. This latter again

has two aspects, viz (a) individualism when each man is supposed to be able to find out his best interests and pursue them for his own benefit, and (b) co-operation or organization among members of the same group to safeguard their interests as against those of the members of different groups, e g trade unions of labourers. In India the third stage is passing away, ushering in the fourth. In Europe and America the fourth stage has been for some time, of which individualism still exists, although co-operation is fast spreading among all grades of workers.

CHAPTER II

METHODS OF ECONOMIC STUDY

THERE are two logical methods of study which are both applicable in the study of economics. These are deduction and induction.

Deduction.

Deductive method is that by which, starting from a general proposition of wider import, we arrive at particular conclusions. It "investigates a given class of phenomena, and the general laws in accordance with which those forces operate, and then goes on to trace the consequences which ensue from their action and interaction under specified conditions." (Keynes.) Therefore, the conclusions are more particular than the general propositions with which we start. Thus the use and choice of the initial propositions (premises) are important. From these, more particular propositions are deduced as conclusions. Finally, these latter are verified in the light of facts actually to be found in life. It is apparent that the starting general propositions must be based on observation, it may be, of other branches of study than economics. These are drawn from observation of man's environment, which consists of his mental and physical environments. Thus the initial propositions are usually the conclusions of psychology and social sciences, as also of the physical sciences proper.

Deductive method is clearly a method of abstraction in which we proceed to draw abstract conclusions which are true only so long as the conditions presumed in the initial propositions remain true, and no new condition is introduced. Hence the application of the method is limited to certain classes of study. As it is necessary or convenient to have frequent aid of graphs, diagrams, and mathematical symbols in the use of deductive or abstract

method, it is sometimes called graphical or mathematical method

Induction.

Inductive method is a "process of reasoning whereby, on the strength of particular instances, a general law is established" (Keynes). In economics it is more loosely meant to convey the idea of a method of study in which, by studying concrete facts, we arrive at general conclusions thus excluding those cases when we obtain conclusions directly deduced from known principles. In economics inductive study is naturally helped by all methods by which we study and classify facts. As such, statistical and historical methods are subsidiary to the inductive method. This method studies and classifies observed facts, and draws conclusions which form the basic propositions for deduction or conclusions which are established independently of the deductive method.

As said above, the method of economic study is both deductive and inductive. But in different branches of economics different emphasis is given to each method. Thus in order to study the method of economics we should sub-divide economics and find the proper method for each. For this purpose we should recall our division of economics into science and art. The science of economics may further be divided into the abstract and concrete science of economics. The abstract science of economics deals *a priori* with principles, while the concrete science studies their application in reference to a particular community. Apparently pure deduction is applicable to the abstract science of economics. But it is not sufficient for the concrete part of the science of economics because the use of deduction alone will yield conclusions which will be very general, and therefore, useful only as a first study of general propositions. Or, such results must be only hypothetical ones, depending for their application to practical life upon a detailed study of existing facts and conditions. In this

case the purely deductive conclusions can be of practical use only after a concrete study requiring the help of the inductive method. For example, by deduction we arrive at the conclusion that the same kind of work fetches the same wages. But we cannot explain the actual differences in wages in different parts of India, or in different industries. We can do this only by studying the facts as they exist in different parts of industries in India, for which purpose we must take the help of induction.

Thus in abstract economic science deduction is of greater use, while in concrete economic science a proper combination of deduction and induction is necessary.

In the art of economics induction is of greater use than deduction because here we have to deal with the application of the conclusions of the science of economics to the affairs of a particular community. This cannot be done unless we know the special circumstances of the community. This knowledge can be obtained by observation and study of the facts, which require the help of induction. The problems of improved production, and better distribution can be attempted to be solved mainly with this method.

Nature of Economic Study.

In economics we frequently hear of laws. The term law is usually used in two different senses. Law may mean the command of a person or body of persons disobedience to which will be punished, e.g. the law made by the State. It also means the statement of a tendency which persists in its operation unless overpowered or modified by another tendency. Thus we speak of the law of gravitation according to which all material bodies attract one another. The law is not proved to be false when the book on the table does not fall to the ground. It is overpowered by the operation of another law, viz., resistance of the table. Or, when a tent is pitched the tendency of each force applied by each of the several ropes pulling in different directions is

modified and the resultant force, that is the joint effect of all, is to keep the tent erect

Laws of the science of economics are statements of tendencies which are in constant operation, but the effects of which may be overpowered or modified by other tendencies simultaneously operating. These modifying forces need not be economic. For example, an economic assumption is that man tries to get the maximum of wealth with the minimum of sacrifice. But a religious devotee may spend money in building temples or *dharmashalas*. Here, in spending the economic motive is overpowered by the stronger motive of religion.

Ordinarily the science of economics studies man as he is placed in modern society. Hence the assumptions which are made by modern societies in general also form the assumptions of economics. Of these the two most important are private property and competition. The idea of property involves the right that each man in a modern society has complete and absolute power to do whatever he likes with what is possessed by him so long as he does not interfere with similar rights of others. It is apparent that economic laws deduced from such a society will have to be modified in their operation if they are to be applied to a society where no private property is allowed.

A similar and, from the point of view of economics, probably more important assumption, is that of free competition. As this assumption is very important we shall consider it in some detail in order to avoid any misunderstanding later on. Competition in economics seeks to give free scope to the economic self-interest of individuals without any checks. These checks are usually considered to be (1) custom which is always very important in the life of man, (2) combination by which producers or sellers or any other members of an economic group may join together in order better to fight with other groups, and (3) legislation, that is, legal interference with free competition. The object, for example, of the State Socialists or Collectivists

is to place both production and distribution under State regulation.

With private property free competition involves freedom of contract, and therefore enforcement of contracts when voluntarily entered into. This competition is a biological essential which can be seen in all spheres of life, vegetable, and animal. It is seen in what is called the struggle for existence or survival of the fittest. In a sense it includes co-operation. (Co-operation is consciously working together for a common end. Its object is none other than that of competition. Both seek self-interest, one individually and the other collectively. If the self-interest of the individual be contradictory to that of the group it cannot be the interest of either the individual or the group to retain such co-operation. Co-operation, therefore, is really group-competition, and, in this, groups may combine into bigger groups. Thus one State is a unit as against other States, the individuals of which combine for certain purposes, although sub-groups within the State may have partially antagonistic interests. Nor does this competition necessarily imply anything sordid, just as competition in biological evolution does not imply that.

Applicability of Economic Laws to India.¹

It should be understood that, unless it is definitely stated to be otherwise, laws of economics presume that private property and competition operate in their working. Therefore, to the extent that this does not hold in a community or country, to that extent the laws of economics must be modified in their operation in the light of existing facts. Hence it is necessary to ascertain to what extent economic laws, as they have been developed and formulated in the West, are applicable to India, and along what lines this modification of their operation is to be seen.

The need of such study, as also the difficulty, consists

¹ Taken from the author's book, *The Economic Development of India*, Vol. I, pages 1-6.

already pointed out, does not exclude co-operation. Competition assumes the operation of the individual's economic self-interest, and co-operation, when voluntary, is only an instrument to further the same. Such co-operation as is found in India is based upon the lines of the community, village, occupation, and nationality. But the principle is the same as in competition, viz., to foster the self-interest of the groups, and the co-operation obtained from individuals must, in normal course, follow the lines of the joint and separate interests of individuals. If there be any conflict between the two kinds of the individual's self-interest he adheres to or gives up co-operation according as the total benefit which he derives for himself is or is not greater. Thus in essence there is little difference between competition and co-operation in economics. If by co-operation be meant compulsory association in economic activity against the self-interest of the component individuals, that is not desirable at all. If that exists in any part of India it is economic tyranny, and should not be tolerated.

Such want of competition, which acts as a drag on economic development, may be born of social customs, religious prejudices, and various other defects. Thus land in India is subdivided into too small fragments which cannot be economically cultivated. This is due to the law of inheritance, which prevails among both the Hindus and the Mussalmans. Love for every plot of ancestral lands generates the desire of having a share in each plot by the descendants, with the result that each person often holds several plots, which obviously cannot be economically used, whether in the matter of time wasted in going from one plot to another or of wells for irrigation or of fencing and watching or sowing and reaping. Similarly, labour is immobile because of the limitation of competition by caste rules, love for home, ignorance, and social prejudices.

The above illustrations will make clear the line along which the economist in India must work in attacking its

CHAPTER III

DIVISIONS AND DEFINITIONS

ECONOMICS is ordinarily divided into four parts, viz., production, exchange, distribution, and consumption.

Divisions.

This order of division is according to time. A commodity must first be produced before it can be consumed. In a modern society, as we have seen, the complex organization of production does not, as in the case of the savage, put the commodity into the hands of the consumer. Each producer specializes in a few commodities, in most cases in co-operation with others in the factory or the field. In order to be able to procure the commodities which he requires but does not produce, he must produce a large quantity of the few commodities in the production of which he specializes. The excess produce over what he requires for himself helps him to obtain his other requirements. Thus there is a concentration of a few commodities in the hands of each person or combination of persons. In order to enable the producer to get his requirements which are produced by others, and in order to facilitate the work of consumption of those who require his products, it is necessary that the concentrated commodities should be distributed among the producers if many have co-operated, and then among the consumers who require these commodities. Thus distribution comes in between production and consumption or using the commodities. But the commodities produced can be so distributed only by each producer (or body of producers) taking his commodities to the market and selling them in exchange for other commodities of other producers. Thus the process of distribution can be completed only by the machinery of exchange. Thus we see that commodities are produced for ultimate consumption.

But the produce can be consumed only after it is properly distributed, and distribution is effected through exchange. Hence the four-fold division of economics is, in order of time, production, exchange, distribution, and consumption.

Of these, it will be seen, consumption is the most fundamental, since it is the need for consumption, i.e. want to be satisfied, which gives rise to the processes of production, exchange, and distribution. Also exchange is the means through which distribution is effected. Therefore, the order of the four divisions according to their importance would be consumption, production, distribution, and exchange. In this book we shall follow the former order of the divisions.

Definitions.

Economics, like all other sciences, has its nomenclature. Its terms are mostly taken from the language of ordinary life. But as in ordinary life we use these terms rather loosely, and often use them in more than one sense it is necessary to define them for our purposes in order to avoid confusion of thought.

UTILITY Utility is the capacity of a commodity to satisfy some human want. Whenever there is a want which can be satisfied by a commodity, we say that that commodity has utility, that is, it can satisfy a want.

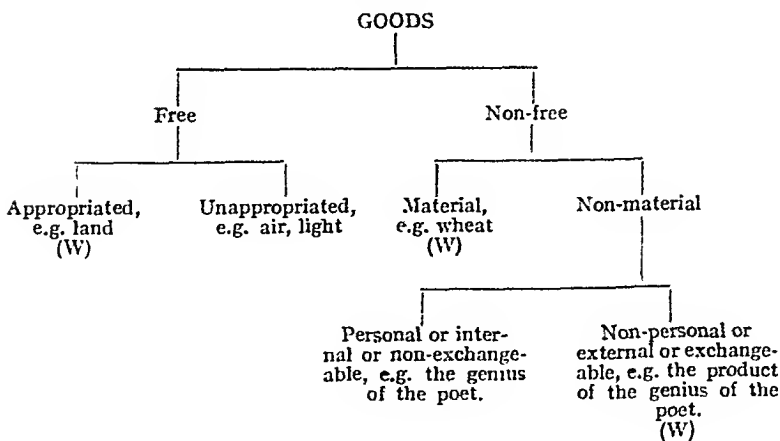
WEALTH Goods are all those commodities, whether material or non-material, which possess utility. Thus under goods will come air, wheat, the services of the domestic servant, etc.

But all goods are not *Wealth* or *Economic Goods* although all wealth comes under goods. Some goods are given to man freely by Nature in such abundance that all his wants for them are satisfied without any need on his part to produce them. Thus air, light, etc., are goods. But these are not wealth nor economic goods. Wealth is differentiated from goods by having besides utility the additional qualities

of being scarce and exchangeable. By scarce we understand that these goods are not abundantly supplied by Nature to satisfy all our wants in regard to them, and therefore they require to be produced by man's effort. For example, wheat grows wild, but the quantity thus grown is too small for man's requirements, and he produces it. Therefore it is wealth. Wealth must also be exchangeable. Therefore the personal qualities of a man are not wealth, although they may help him to acquire wealth. Thus the natural genius of a man for music or any other art is not wealth, because this genius cannot be exchanged at any price. But the services of a musician or artist can be exchanged when we hire a musician or buy a picture. The capacity for music or painting cannot be exchanged, but the services rendered as a result of this capacity can be exchanged.

Again there are some goods which are freely supplied by Nature but are not abundant, nor can they be produced. These also come under wealth, e.g. land and many other forces of Nature which are freely given by Nature in fixed quantities, but are allowed to be appropriated by individual members of the community.

Thus goods can be classified as follows—



Of the above the items marked (W) are wealth or economic goods. Therefore, *Wealth* consists of all exchangeable goods, material and non-material, which satisfy some human want, and which are not supplied freely by Nature in such abundance as to satisfy all human wants in regard to them, and so must be produced by man's effort.

Wealth may again be divided into individual and social wealth. Wealth of an individual would consist of all economic goods which he possesses in exclusion to other persons. This will increase by all things which others owe him, and decrease by those which he owes to others. Social wealth will include besides individual wealth all goods which are owned by the community as a whole. A park in a crowded city, a museum, a bracing climate which other communities do not possess, will come under social wealth ✓

CAPITAL Wealth may be kept either for the direct use of its owner at once or at a future time, or the owner may abstain from using it for himself and keep it for further production. When wealth is used in the former way it is called consumption wealth. When it is used in the latter way to help further production it is called *Capital*. Thus the same economic goods can be used in either way. When an article is used directly by its owner it is consumption wealth, when this use is postponed so that in future the articles will help him in producing other economic goods it is called capital. Thus of a quantity of wheat which a man has, when a portion is used as food for himself and his dependents, it is consumption wealth and when a portion is kept away to be used as seed in the next season and produce further goods for him it is called capital. Thus there is no division of goods as such into consumption wealth and capital, the same things being capable of use in both ways. But when the goods are actually used in a certain way or meant to be so used we can distinguish wealth and capital according to the use to which the goods are put. Thus the features which distinguish capital from

consumption wealth are, as Marshall puts them, its prospectiveness and productiveness ; that is, the goods are used in future and for further production.

INCOME. Income is that which is derived from wealth by its owner, whether it is used as consumption wealth or capital. Whatever yields utility and is possessed exclusively by its owner is said to give him income to the extent of the utility. Thus the table which he uses yields him income in the form of utility, and the table which he sells yields him income in the form of utility possessed by other things which he can buy with the price of the table. The amount of utility in the foregoing illustration is *Gross Income*, or the total amount of utility or satisfaction which the owner gets from the table, whether by using it himself or by exchanging it for other economic goods. But in order to get the table he had to undergo certain sacrifices, either in buying it or in making it. These are cost or expenses of production or disutility, i.e. negative utility. These represent the amount of utility with which he parts in order to get the table. This disutility must be subtracted from gross income to find the *Net Income* from the table.

Income may be calculated as above in terms of utility derived from wealth. It is then called *Real Income*. But usually we calculate income in terms of money. This latter is *Money Income* or *Nominal Income*. The nominal income of a man is the money income which he receives ; his real income consists of whatever he can buy with that money besides any other economic goods which may come to him. For example, if he be given a free house to live in or facilities in any other way, these should be included in his real income.

As wealth is individual and social, so the income derived from wealth is also individual and social. The line of division in the two cases is the same. The social income of a community or nation is usually called the *National Income* or *National Dividend*. This includes whatever is produced by that community or nation during the period

for which the calculation is made. If it be one year it is called the annual national dividend.

PRODUCTION Production in economics means creation of economic utility. Man cannot create anything. What he can do is to create or increase utility of the goods by handling them in certain ways which will give man greater satisfaction than the goods without such handling.

This creation of utility can be in three ways viz., creation of shape or form utility, place utility and time utility. When raw cotton is converted into a pair of *dhoties* there is an increase in utility and therefore there has been production. This is producing shape or form utility. When wheat is abundant in a remote village and scarce in a town the satisfaction which the wheat can yield in that village is less than the satisfaction which it can yield in the town because there is more unsatisfied want in the latter than in the former. When the wheat is transported from the village to the city it increases in utility. Hence this is production. This is producing place utility. When wheat is abundant after the harvest and scarce later in the year the utility of wheat is less in the former case than in the latter. Therefore if it be held in store and sold later in the year it increases in utility. Hence this is production. This is producing time utility.

Thus we see that the agriculturist or the manufacturer produces utility as much as the merchant or the trader who transports goods from place to place or time to time. The popular prejudice according to which the former is and the latter is not regarded as an economic producer is wholly fallacious.

CONSUMPTION Consumption in economics is using economic utility. Just as man cannot create anything so he cannot destroy anything. As production means creation or increase of utility so consumption means using up the utility. The distinction between consumption and destruction of utility is that in one case the utility is finished off by using or giving satisfaction whereas in the other case

it is finished off without doing so. A man consumes his house by using it during the lifetime of the house, but it is destroyed if it be accidentally burnt down.

VALUE. Value has ordinarily two meanings. The value of an article may be the satisfaction or utility which it gives to the owner. This is value in use. As we have got a separate word, utility, for value in use, we shall not use the term value in this sense. The second meaning of value is the purchasing power or value in exchange. An article may be exchanged for other articles, and these latter represent the value of the former. If one table can get in exchange four chairs, we say that the value of a table is four chairs, and that of four chairs is one table. Therefore, exchange value is a relative term. If the value of table increases it must necessarily mean a fall in the value of chairs. Thus there cannot be a general rise in the value of all articles, the rise in any one involving the fall in some others in terms of which the value of the former has risen.

When value is expressed in terms of money it is called *Price*. There may be a general rise in the prices of all goods. This merely means that there has been a fall in the value or purchasing power of money.

DEMAND AND SUPPLY. The *Stock* of a thing is the amount of it that there is in the market.

The *Supply* of a thing means the quantity of that thing, which will be offered for sale at a given price.

The *Demand* for a thing means the amount of that thing, which the buyer is willing to buy at a given price. In economics demand always means effective demand, that is, the person must have the ability and willingness to pay for that thing. Demand for a thing without the ability and willingness to pay for it is of no effect, and economics does not take into account such ineffectual desires.

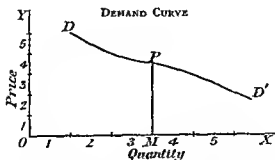
It is apparent that the supply and demand of a thing will vary according to the price at which the thing can be sold and bought. Therefore there is a close relation between the variation in the price on the one hand, and the variation

in the quantity demanded or supplied at that price on the other. *Demand Prices* are prices which a man is prepared to pay for different quantities of a commodity, and *Supply Prices* are prices at which a man is prepared to sell different quantities of it. The table or statement of each quantity demanded and supplied at each variation in the prices of that thing is called respectively the *Demand* and *Supply Schedule* of that buyer and seller with regard to that thing. Thus a schedule gives a definite relation between the quantity of a thing and its price with regard to its demand or supply.

When demand and supply schedules are represented in graphs, they are called *Demand* and *Supply Curves*. The following tables and graphs illustrate the demand and supply schedules and curves in the case of *ghis*—

DEMAND SCHEDULE

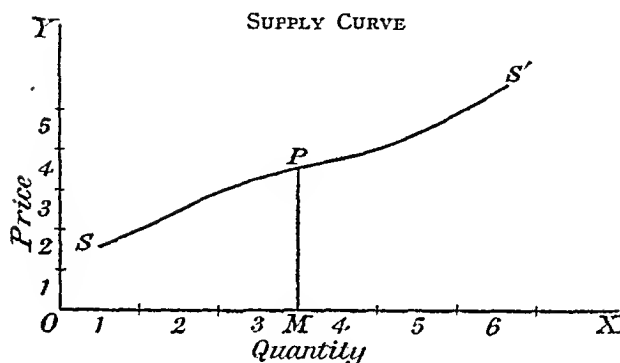
Amount demanded in sers	Price per ser in rupees
1	5
2	4
3	3½
4	3
5	2



The units along *OX* represent the quantity demanded at the price which is measured along *OY*, that is, by lines parallel to *OY*. Thus, when the price is *PM* per ser, the amount demanded is three sers.

SUPPLY SCHEDULE

Amount supplied in sers	Price per ser in rupees
1	2
2	3
3	3½
4	4
5	5



Here PM is the price at which the producer is prepared to sell three sers of *ghi*.

The *Demand* for two or more things is said to be *Joint* when they are required together, and the demand for one of them implies a similar demand for the rest. Thus, to the tea drinker there is joint demand for tea, sugar, and milk, to the knife manufacturer there is joint demand for blades and handles, to the automobile factory there is joint demand for iron, nails, timber, leather, etc. The demand for two or more things is said to be *Derived* from that of another when the former follows as a consequence of the latter. Thus in the previous illustrations the demand for blades and handles is derived from that for knives. Joint and derived demands always follow from the same conditions. The former looks into the demand for the component elements of an article, while the latter looks into it in its relation to the demand for that article.

The demand for two or more things is said to be *Alternative* when the demand for one excludes that of another.

Thus the demand for tea and coffee is alternative because of a definite demand for such drinks if more is satisfied by tea, less must be the demand for coffee. Similar is the case with the demand for rice and wheat.

The demand for a thing is said to be *Composite* when it is required for more than one purpose. Thus the demand for leather is composed of the demand of the furniture dealer, the automobile maker, the shoemaker, etc.

The *Supply* of two or more things is said to be *Joint* when the production of one involves that of the rest. Thus the supply of wheat and straw is joint, as also that of timber and bark, and fat and lean meat, and hide.

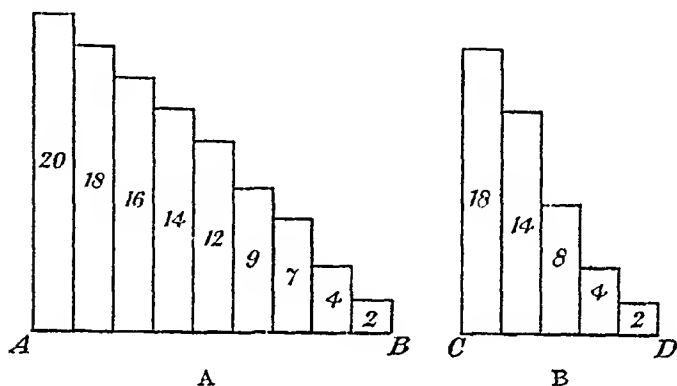
The supply of two or more things is said to be *Alternative* when the production of one precludes that of the others. Thus there is alternative supply between chicken and eggs, curd and *mawa*.

The supply of a thing is said to be *Composite* when it is produced from more than one source. Thus the supply of leather is from bark and hide of oil and fertilizer from fish and cattle.

THE MARGIN IN ECONOMICS By *margin* we understand a position of equilibrium. For example, marginal demand is that demand at which the utility derived from the consumption of a certain quantity of an article is approximately equal to the sacrifice which is necessary to obtain that quantity. Such a position need not be one only but there may be many margins.

Margin may be classified into margins under production and under consumption. The finished commodities which are consumed come under the latter. Each consumer distributes his total consumption in such a way that he gets the maximum of utility out of the whole. If he spends more on one article and less on another the utility which he derives from certain units of his income in the former would be less than that of the latter. The maximum will be reached when the marginal utility in each case is the same.

Diagrams A and B represent respectively the consumption of wheat and *dal*. Along *AB* and *CD* we measure quantity which can be obtained, say, at as.4. The rectangle on each unit represents the amount of utility or satisfaction derived from the consumption of that unit. The figures in the rectangles represent the amount of utility or satisfaction derived from the consumption of the different units



of wheat and *dal*. It is apparent that if a man has R.1 as.8 to spend on wheat and *dal*, he will buy wheat worth R.1 and *dal* worth as.8. Here his total utility will be 68 for four units of wheat, and 32 for two units of *dal*, that is, 100 in all. If he had spent as.12 each on wheat and *dal* his total utility would have been 94. In the former case the marginal utility in each article is the same, that is, 14, whereas in the latter case the marginal utility of wheat is 16 and that of *dal* is 8. If as.4 be taken away from *dal* and spent on wheat, the total utility will diminish by 8 in *dal* but increase by 14 in wheat, that is, there will be a net increase of 6 in total utility. Therefore, it is evident that the maximum total utility or satisfaction can be obtained when the marginal utility in each case is approximately the same.

Such margins or positions of equilibrium appear in the consumption not only of different articles taken together,

but also in each article. The boy who plucks plums to eat them soon reaches a margin at which the utility or satisfaction of eating an additional quantity of plums is balanced by his effort to get them. If he goes beyond the point his effort or disutility is greater than the utility which he derives from an additional quantity of plums. When a man buys coats he stops at a point where the utility from an additional coat is balanced by the disutility or sacrifice of the price which he pays for a coat. X



F7

Along AB we measure the number of coats the first coat yielding utility worth R 12, the second R 9 and so on. Let us suppose that the price of a coat is R 4 as 8. Then his margin will be at the fourth coat, that is, he will buy four coats, because the utility which he derives from the fifth coat, i.e. R 4, is less than his sacrifice, i.e. R 4 as 8. If the price of the coat were R 8 his marginal coat would have been the second one. 8396

The same margin is to be found in production also, and here we should study the margin under each factor of production. The factors of production are land, labour, capital, and organization. The function of the latter is to put the first three together in the right proportion. The landlord offers his land on hire for a particular purpose, because he gets in this use more than what he can get by using it for himself or for any other purpose. Thus land is used for agriculture because its use as a garden, forest, or building land is of less value than its use as an agricultural land.

As the labourer goes on increasing the number of hours

of work he finds that his labour grows more irksome, while the rate of his pay is fixed. He stops at that hour where the disutility of labour approximately balances the pay for that hour. In the first hour, when he is fresh, the sacrifice or pain is the least, while his desire for getting pay is the greatest. But as the hours pass by, the pay which he has earned increases, that is, the means of satisfying his most urgent wants have been earned, while the pain increases till a time comes when the utility derived from the pay just balances the disutility of pain. He stops at this point which is the margin.

In capital also there is this margin. The price of capital is interest. Capital is what is saved from past production. It was not consumed because its future interest was expected to yield greater utility than what could be derived from immediate consumption. Hence, if the interest be too low the sacrifice of present consumption would not be compensated by the interest in future. This will increase consumption and diminish capital till the margin is reached at which the present worth of the utility derived from the interest is equal to the utility derived from its immediate consumption.

THE ENTREPRENEUR. The entrepreneur or organizer combines the above three factors in such a way that the marginal utility—in this case measured by productivity—is the same in all cases. If he has spent more on land or labour than on capital the marginal utility in the former would be less than in capital. Therefore, by reducing his quantity of the former and increasing that of the latter he would be adding more utility than he would be reducing. This will increase his total utility or output.

Thus in all economic activity, whether it be of consumption or production, the margin appears as the position at which the equilibrium of utility and disutility, of profit and loss, of satisfaction and sacrifice, is obtained. It should be noted that in no case is this margin constant or fixed. Any change in either item will change the margin.

Thus a change in the price of an article will change the consumer's margin with regard to that article. Thus in practical life the dynamic aspect of the margin should be properly realized. With every change in the items which are balanced there will be a change in the position of the margin. And such changes are continuously going on as a result of the restless activity of man in making improvements in his production or readjustments in his consumption.

PART II PRODUCTION

CHAPTER IV

FACTORS OF PRODUCTION

As production means creation or increase of utility, and as all exchangeable things possessing utility and made by man constitute wealth, production increases the wealth of a nation. This increase of wealth is always accompanied with some loss of utility. Production involves some sacrifice of utility in order to create greater utility. Production of a pair of *dhoties* implies the loss of utility of various kinds, e.g. the utility of raw cotton, labour, machinery, land, buildings, etc., which are necessary for making the pair of *dhoties*. Also production is meant for consumption, and only out of what is not consumed is left a portion to be used as capital to aid future production. Thus the wealth of a nation consists of its production *minus* those portions which are required for making them. Upon this surplus of production over consumption depends the prosperity of a nation. Hence the prosperity of a nation is a function of two variables. It varies directly as its production and inversely as its consumption.

Natural Resources.

A nation's production depends upon two factors or series of factors. These are, according to Carver, (1) its geographical situation, that is, how rich its land is in food products, minerals, forest, power, favourable climate, situation for trade and transport ; and (2) its people, that is, how energetic and wise they are in using the natural resources and acquiring technical skill for the purpose. The former is more or less fixed for a nation, and can be altered by man only to a very limited extent, while the latter may be

changed almost indefinitely. Therefore, in economics the latter is more important than the former. In making use of both of the above factors the habit of economizing is important, as on that depends the prosperity of a nation. There are three ways of economizing. "One must, because of scarcity, economize, first, by using his time and energy to better advantage in order to get a larger income, second, by spending his income as wisely as possible so as to buy the things he needs most, third, by economizing the goods purchased so as to make them go as far as they will."

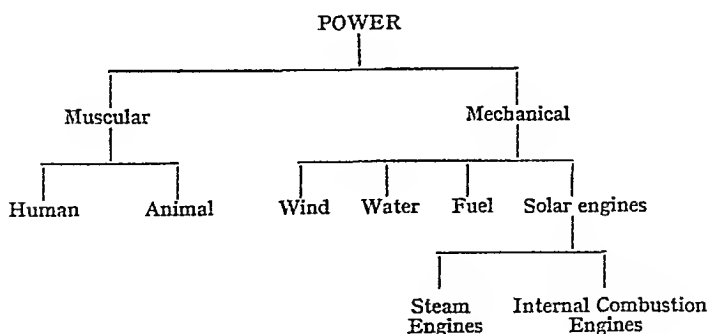
GEOGRAPHICAL SITUATION The geographical situation is important in that it gives to a nation the materials on which it can work. But as these are more or less fixed in quantity a good deal more depends upon the people, that is, the second factor stated above. The geographical situation determines for a country the amount and variety of natural resources. The configuration fixes the amount of rainfall and the formation of the soil. The soil may be rich or poor in natural fertility. It may or may not produce foodstuffs of sufficient richness and quantity. The food requirements of a people are both the causes and results of the available food products. For example, in India the distribution of rainfall determines the area respectively of rice and wheat crops and the people eat rice or wheat according as it is produced in the locality. The abundant rainfall in Bengal, Burma, Madras, and the western districts of Bombay is favourable for the cultivation of rice and rice is the staple food of the people there. In Northern India, on the other hand the character of the soil, the rainfall, and the dry climate leading to a copious supply of winter moisture in the form of dew help the cultivation of wheat, *jowar*, *bajra*, etc., and these form the staple food of the people there.

MINERAL RESOURCES The mineral resources of a country are important in that they determine the character of the industries which can be developed in a particular region. In modern days iron and coal are important

minerals without which few industries can be successfully worked on up-to-date lines.

FORESTS. In the same way the forest of a country determines many industries which depend upon it. The existence and distribution of forest affect the rainfall and moisture as also the nature of the soil. Thus the rapid denudation of forest in the district of Etawah, in the United Provinces, is increasing the proportion of arid land to cultivable soil.

POWER. The main work of man from the physical point of view is that of moving material things. Thus power is an important factor the use of which has increased only with that of mechanical inventions. At first man depended upon his muscles for power. Then he utilized the power of animals. Mechanical power is of later growth. The source of the latter is again various. It may be steam or electricity generated from coal and oil, or it may be directly obtained from natural forces such as wind and waterfall. Water power is ultimately derived from sun's heat which evaporates water. This comes in the form of rain, a portion of which is utilized for generating power. According to Carver, power is derived from many sources which can be tabulated thus—



CLIMATE. Again, a good deal depends upon the climate of the country. It may be favourable for hard, intensive work, or it may be too enervating for such labour ; it may

yield the first necessities of man too easily as in the tropics, or with too great difficulty, as in the arctic zones

LOCATION Also the position of the country as to trade and transport is important. Thus the position of England was in a corner of the European trade system till the geographical discoveries of the fifteenth century, when its position became central with regard to the world as now known. In South Asia the position of India is equally central.

PEOPLE With the material resources furnished by Nature the people of a country must work. A country may be rich in minerals, but if the people do not know how to use them or use them economically, their value is diminished. Thus an important factor lies in the people. The characteristics of a capable race are detailed by Carver as follows—

1 **Knowledge** The people should have the requisite knowledge of both the physical world and the world of men.

2 **Forethought** The people should realize the future and work for it. This involves industry and thrift.

3 **Dependableness** The efficiency of a people depends upon certain moral qualities, e.g. honesty, sobriety, courage, and fidelity. Organized work is not possible without these.

4 **Reasonableness** This is shown in three factors—
(a) eagerness to learn, without which little advance can be made towards the requisite skill and training involved in modern production, (b) obedience to law, without which it is not possible to maintain the even working of the social system upon which depends all the economic activity of man, and (c) willingness to co-operate, without which the modern organizations of production, trade and commerce, credit, etc., are impossible.

Heredity and training play an important part in the acquisition of the above qualities, of which the latter is becoming more and more important in modern days, with the present system of distributing knowledge and giving training.

LAND

The factors or agents of production are normally four, viz., land or nature, labour, capital, and organization. Sometimes the last is split up into two, viz., organization proper and the risk part of it, i.e. enterprise. Sometimes, as in America, speculation is added as an agent of production.

What is Land ?

Land consists of all natural forces which are given in fixed quantities, and which can be worked but not increased by man. This includes not only agricultural, building, forest, and other lands, but also mines, fisheries, water and wind power, etc.

Natural Fertility.

The value of land depends upon three factors, viz. (1) its natural suitability for the particular work to which it is put ; (2) permanent improvements made on it by man, the results of which cannot now be distinguished from those of natural suitability, e.g. by building roads near it or irrigation ; and (3) situation, that is, distance from and the means of communication with the market to which it or its product belongs. In the case of agricultural land the first factor is natural fertility, which Ricardo describes as " the natural and indestructible powers of the soil." These, in their turn, depend upon three factors, viz., mechanical properties, chemical substances, and biological elements.

MECHANICAL PROPERTIES OF THE SOIL. According to their mechanical properties soils may roughly be divided into three kinds, viz., sandy, clayey, and what we may term normal. Each division is of various gradations, but for our purposes this three-fold division is sufficient. To support normal plants two mechanical properties are important. The soil should be loose enough to permit plants to spread their roots as deep and as wide as is

required to draw the necessary sustenance from the soil. It should also be sufficiently adhesive to keep the plants erect. The former property is absent in clayey soil which is too sticky, and the latter is absent in sandy soil which is too loose.

The particular type of soil is the result of mechanical changes continuously going on. The chief agencies in this behalf are gravitation, heat and cold, wind, and water and ice. Originally all soil is rocky. The pulverized rock is spread over the surface of the earth by the force of gravitation working on it. Thus mixed soils are produced. This force is continuously working to level the surface of the earth and wash soil particles to the sea. In so attempting it is always mixing up different soil constituents.

Heat and cold are important mechanical agencies. Different bodies expand and contract differently. The cause of this is yet unknown, but its effect is very important. The rock, being mostly mixed substances except, for example, limestone, does not expand and contract uniformly. Thus heat and cold bring about a strain and jostling of the various particles of a rock. This loosens them at a rate which differs according to the variation of heat and cold.

This process is materially helped by water. Water operates on the soil in three ways. (1) It percolates into the crevices and fissures of the rock. When this water freezes and expands it will break up the hardest rock by repeated operation, including granite and flint. Gradually the rock is split asunder. (2) Water in its course as rivers and glaciers carries the loose masses of the rock, thus grinding these as also the bed over which it moves. Such fragments are seen as pebbles and boulders, which are finally worn into sand and clay. (3) Water percolates into every cranny and fissure, thus acting as the universal softener and solvent. In this aspect its action borders between the mechanical and the chemical.

CHEMICAL CONSTITUENTS OF SOIL. The three most

abundant chemical constituents of the soil are oxygen, silicon, and aluminium. The presence in greater or less degree of the last substance determines the character of the soil. A large dose of it makes the soil clayey, and its absence makes it sandy. A moderate quantity would give our normal soil. Of the above constituents oxygen is the most important, as it readily enters into compounds with most other elements, e.g. hydrogen, nitrogen, carbon, sulphur, phosphorus. Chemical substances help to break up the rocks as much as mechanical agencies. For example, limestone rocks are not much amenable to mechanical agencies, but they are easily dissolved by carbonic acid. The chemical action is further helped by the little plants on the rocks and stones, which send their roots into every cranny. Their roots secrete oxalic acid, which is a powerful solvent eating into the structure of the rock. The roots also have a mechanical effect. Their pressure is so great that no rock can resist it. When the plants die, in the process of decay, they bring about certain chemical changes. This vegetable "humus" is an essential part of the normal soil, without which it cannot be arable. The proper mixing up of this humus with the various rock substances makes the soil fertile.

LIVING ORGANISMS. The final work is done by the biological elements. These are so called because they are living organisms, both animal and vegetable. Contrary to popular notions the soil is full of various kinds of bacteria. Some of these are essential to plant life. Plants, like animals, can take their food only in certain definite forms. Animals can feed only on plants. It is the latter alone which can draw their sustenance directly from Nature. But the chemical substances upon which plants feed must be in some definite forms. For example, nitrogen and phosphorus are essential food constituents for plants. But they can take these only when in particular forms, viz. nitrate and phosphoric acid. The formation of nitrate is to a very large extent due to the action of bacteria. The

work is done by several varieties of bacteria, each of which does a portion of the work. The most important of these are called "nitrifying" bacteria, the special function of which is to draw nitrogen from the air and soil, and convert it into nitrate, the form which plants can absorb. In this respect leguminous plants are most important. In the nodules of the roots of such plants the nitrifying bacteria store up nitrate. The roots of leguminous plants with these nodules are ploughed into the soil which thus becomes rich in nitrate, and which will then support ordinary vegetable life. The existence of the bacteria which are beneficial to plant life is absolutely essential. Thus certain German lands which were very rich in chemical substances and mechanical properties suitable for agriculture, but deficient in the particular type of bacteria, have been increased very considerably in their productivity by the artificial supply of such bacteria to those lands. Now they form part of the best agricultural lands in Germany.)

The Indian Monsoon.

India is mostly an agricultural country more than 70 per cent living by agriculture, and about 90 per cent living in villages.

The configuration of the country determines the amount of rainfall. The crops which can be raised on the land depend upon this rainfall as also on other climatic factors, e.g. deposition of dew, temperature, dampness of the air. Usually there are two harvests called the *kharif* and the *rabi*. *Kharif* crop is that which is sown in the rainy season and harvested in winter, and *rabi* is that which is sown in winter and harvested in spring.

Water is supplied to land naturally by rainfall, and artificially by irrigation. Rainfall depends largely upon the configuration of the country. The south-west monsoon gives the most important rainfall to India. This is in the rainy season proper. The north east monsoon of winter months is really the returning south west monsoon. To

understand the distribution of rainfall we should look at the map of India. The south-west monsoon, warm and laden with water vapour, comes in contact with the Western Ghats, and gives an abundant rainfall to the districts lying to their west, that is, Malbar and Konkon. Thus the rainfall is heavy here and little in the inland parts just east of the ranges. Along the valleys between the Satpura and the Vindhyas the monsoon enters inland, and gives fair rainfall to the Central Provinces and Central India. Further north it comes in contact with the hot desert air, and is at once carried higher with greater capacity to hold water vapour. Thus there is little rain in Sind, Rajputana, and the Western Punjab. Coming in contact with the Himalayan snows it lets off some rain in Kashmir and in north-eastern parts of the Punjab. In Southern Madras it gives some rain. The monsoon enters Bengal, Bihar and Orissa, Burma, and Assam after passing over the Bay of Bengal. Hence there is copious rainfall in these parts. Coming in contact with the Himalayas it moves along the hills in a north-westerly direction, thus supplying the United Provinces with sufficient rainfall.

Thus it will be seen that the amount and distribution of rainfall depend upon the physical features of the country. If the Himalayas were not there the greater part of India would have been arid for want of rain water, as the water vapour would have been carried northward without letting in any water to India.

The return monsoon gives some rainfall to most parts of India, but it is very important for Madras. It comes over the Bay of Bengal, and is full of water vapour which is given up to Madras as it passes over it.

Thus the areas of India which receive abundant rainfall are Bengal, Assam, Burma, the western coast. It is moderate in Madras, the United Provinces, the Central Provinces, Central India, and Bombay. It is insufficient in the Punjab, Sind, and Rajputana.

Land receives moisture in another way. In most parts

of Northern India the extremes of heat and cold lead to a plentiful supply of moisture in the form of winter dew. This is very important for certain kinds of crops, e.g. wheat.

The particular crop which can be raised on certain lands depends upon the amount of rainfall, the situation, and character of the soil. For example rice lands require heavy rainfall and level ground, jute lands should be inundated for a part of the year, tea lands should be slopes where there is heavy rainfall but no water stands on the land, and wheat and cotton lands require less water, but they must be uniformly supplied with winter moisture in dew. Also the temperature in the growing season affects the nature of the crops.

Natural Division of Soils.

The character of the soil is also very important. From this point of view India may be divided into three parts viz (1) soils of the alluvial tract, (2) soils of the Deccan trap, and (3) soils of the crystalline tract.

(1) **ALLUVIAL TRACTS** The greater part of India consists of alluvial tracts. Most of India north of the Vindhya comes under this category, as also the Godavari, Krishna and Tanjore districts of Madras. As such tracts are level ground and composed of comparatively loose soil, irrigation is easier than in other parts of India. A large variety of crops can be grown on such soils. "The amount of nitrogen and organic matter in alluvial soils varies, but is generally low. The potash is adequate, and the phosphoric acid, though not plentiful, is generally less deficient than in other classes of Indian soils. Lime and magnesia appear to be sufficient in amount while the proportions of iron and ammonia are high, particularly in the heavier clay loams."¹ It should be noted here that as the soil becomes exhausted of many chemical substances, it does not remain permanently rich unless means are devised to replenish it.

¹ *The Imperial Gazetteer The Indian Empire* Vol III, Chapter 1

(2) THE DECCAN. The Deccan trap consists of Berar and great parts of Bombay, Hyderabad, the Central Provinces, and Central India. This area covers most of the black cotton soil, which is dark in colour. It is usually deep and dense, and cannot be easily cultivated in heavy rains. Hence the *rabi* crop is more important in these parts. The land is very suitable for wheat and cotton, the latter of which is sometimes a *kharif* and sometimes a *rabi* crop. It is rich in silicon, iron, aluminium, manganese, lime, and magnesia, but poor in nitrogen, phosphoric acid, and organic matter.

(3) THE CRYSTALLINE TRACT. The crystalline tract consists of the lands of Mysore, a very large portion of Madras, and portions of Bombay, Hyderabad, the Central Provinces, Orissa, and Chhota Nagpur. Also there are tracts in Bengal, the United Provinces, Rajputana, Central India, and Burma. The productivity of such lands varies considerably, some being very poor, e.g. the uplands of Mysore and Madras, and some very fertile, e.g. the lowlands there. Tank and well irrigation is easy in deeper soils. Rice is the chief crop in some parts, fruit trees in others. In other parts various crops grow according to the water supply. The lands are usually deficient in nitrogen, phosphoric acid, and organic matter.

Pressure of Population on the Soil.

Agricultural land in India is very congested. This has been steadily increasing. The percentage of population subsisting upon the soil was 62 in 1891, 68 in 1901, and 72 in 1911 and 1921. This is partly due to the disappearance of indigenous industries as a result of competition of modern industries. Hence the pressure of population on the soil is continuously increasing. Yet there are arable lands in various parts of India, e.g. Assam, Central India, Burma, the Central Provinces, which can support a greater number than they do now. The proportion of cropped to total area, and the number of

population per 100 acres of cropped area can be seen from the following—

Province	Proportion of cropped to total area (per cent)	Population per 100 acres of cropped area
Assam	18	131
Bengal	47	188
Bihar and Orissa	48	134
Bombay (excluding Sind)	55	56
Burma	10	83
Central Provinces	37	59
Madras	33	125
Punjab	42	80
United Provinces	52	127

The distribution of land in British India is as follows—

	Acres in millions
Total area	666
Area under forest	88
Area not available for cultivation	153
Culturable waste other than fallow	151
Fallow land	51
Net cropped area	223

If areas cropped more than once in a year be taken as separate areas for each crop, the gross area cropped in India is about 256 million acres. The principal crops raised are—

Crops	Acres (in millions)	Percentage to total gross area cropped
Food grains	205	80
Fibres	14	5.4
Oil seeds	14	5.5
Fodder crops	8.6	3.4
Fruits and vegetables	5.5	2.1
Sugar cane	2.5	1

The total food crops are grown on 215 million acres, and non food crops on 41 millions the percentage to the total cropped area being 84 and 16

The cultivated area per head of agricultural population is a little more than one acre. "Subtracting the land utilized for supplying foreign markets from the total area under cultivation, we shall find that what is left over does not represent more than two-thirds of an acre per head of the total population. India, therefore, feeds and to some extent clothes its population from what two-thirds of an acre per head can produce. There is probably no country in the world where the land is required to do so much."¹ This is due to what may be called the ruralization of Indian industries. The rise in the price of food grains owing to the continued pressure of population has made agriculture profitable while indigenous industries have been reduced by the competition of modern industries. The workers in these fall back upon agriculture, only a few being absorbed in the factories. Also a large number of village artisans are partly agriculturists.²

¹ T. W. Holderness, *Peoples and Problems of India*.

² *The Census of India Report*, 1921.

CHAPTER V

PRODUCTS OF LAND¹

THE products of land are agricultural, mineral or forest

Agricultural Products.

The principal crops of India are rice, wheat, millet, pulses, oil seeds, sugar cane, cotton, jute, tobacco, opium, tea, coffee, cinchona, indigo, vegetables, and fruits.

RICE Rice is essentially a crop of the damp tropical climate. It is the staple crop in all areas of heavy and assured rainfall. The provinces which grow rice in large quantities are Bengal, Burma, Bihar and Orissa, the United Provinces, Madras, the Central Provinces, Assam, and Bombay. More than half of the total produce is raised in Bengal. There are many varieties of paddy (unhusked rice), and the peasants know the conditions of the soil, cultivation climate, and water supply most suitable for each of the several local varieties. These vary from very fine to very coarse, with numerous intermediate varieties. In Madras, on lands irrigated by canals, three crops are raised in one year. In Bengal there are mainly two harvests. In other parts of India there is only one crop which is *kharif*. The best soil for rice is one of clay of fair depth, that is, soil through which water freely percolates. Burma grows rice mainly for export, while other Provinces grow mainly for local consumption.

WHEAT Wheat is essentially a crop of the warmer and drier parts of the temperate zone. The limits of its growth are wide, and its varieties are adapted to nearly all climates. In India it is always grown in winter, that is, it is a *rabi* crop. The best grains are long, elliptical, and fairly heavy. Almost all parts of India grow wheat, but Northern India, Central India, and Bombay grow it in larger quantities.

¹ *The Imperial Gazetteer of India: The Indian Empire* Vol. III Chapter I.

The best qualities of wheat are grown in the Punjab, Sind, and Central India.

MILLETS. Millets are of two types, small and big. The latter, e.g. jowar, bajra, is more important. It is grown in Bombay, Madras, the Punjab, the United Provinces, and the Central Provinces. The number of varieties of jowar is large. Some grow best as *rabi* crop, but the most numerous varieties grow best as *kharif* crop. It is used as a food grain in some parts and as fodder over a large part of India. It is a staple *kharif* crop on black cotton soils where it is grown in rotation with cotton.

PULSES. The type is represented by gram. It is grown in the United Provinces (which produces half of the total), the Punjab, Bengal, Bombay, and the Central Provinces. The area actually sown varies with the character of the late rains. It is always a *rabi* crop and grown extensively on black soil. It is a leguminous crop, and therefore valuable for rotation, restoring nitrogen and vegetable humus to the soil. Gram and other pulses are largely consumed in all parts of India.

OIL SEEDS. Oil seeds are grown in Bengal, Bombay, the Central Provinces, and Madras. Elsewhere they are grown as a mixed crop. An important crop is linseed, out of which oil is made, and the cakes used as fodder or manure. It is a *rabi* crop. Sesamum is both a *rabi* and a *kharif* crop. Other oil-seeds are mainly rape-seed, castor, ground-nuts, poppy-seeds, and coco-nut-seeds.

SUGAR CANE. Sugar cane is an essentially tropical crop. A very large number of varieties are grown in India. These may be broadly divided into two, viz. (1) thick, juicy, and soft kinds ordinarily requiring liberal cultivation and irrigation, and (2) thin, less juicy kinds which require less liberal cultivation and irrigation. Sugar cane is grown mainly in the United Provinces, Bengal, and the Punjab. It is called a twelve months' crop, although it stands on the land for ten or eleven months. The planting season is February and March. At one time India used to export sugar. Now India does not do so, but imports considerable

quantities Yet even now India is the largest producer of sugar in the world

COTTON It is chiefly grown in tropical countries Indian cotton is short staple, although successful experiments have been made in the canal zones of Sind and the Punjab to grow long staple cotton The quality of Indian cotton is low This is due to the mixing up of seeds and fibres The chief producers are Bombay, Berar, Madras the Central Provinces the United Provinces, the Punjab and Central India The black cotton soil which consists of deep, dense clay is most suitable for growing cotton One fourth of India's exports consists of cotton, the greater part of which goes to Japan

JUTE It is grown in Bengal, Assam, and Bihar and Orissa The soil must be inundated when the plants are growing Lately there has been degeneration in the jute fibre, but this is due to malpractices of the trade It is extensively used in Indian mills, and its export, both raw and part-manufactured, is also large

TOBACCO It is grown in almost all parts of India, about half of the recorded area being in Bengal Other important provinces are Madras, Bombay, Burma, the Punjab, the United Provinces, and Central India Tobacco grows best on alluvial soils Two varieties black and yellow, are grown in India

OPIUM At one time cultivation of poppy was very wide in Behar, the United Provinces and many Indian States, e.g. Indore, Gwalior, Bhopal, Udaipur, etc Owing to the stoppage of opium export to China by treaty, poppy cultivation has fallen off considerably

TEA The first tea plant in India was discovered in Assam in 1821 From the middle of the last century its cultivation has steadily grown Indian tea has displaced Chinese tea in the English market Its great rival is Ceylon tea Tea is cultivated on hill slopes of the Himalayas and the Nilgiri Hills, as it requires heavy rainfall, but the water must not stand on the land

COFFEE. Coffee is grown mainly in Mysore, Coorg, Travancore, and some parts of Madras. It requires heavy rainfall and sloping lands, in this respect its requirements being those of tea.

CINCHONA. It is a recent product. It grows in Darjeeling and the Nilgiri Hills. It is principally a crop of cool climate. It grows on slopes and at a fair height with plentiful rainfall. Quinine is produced from cinchona.

INDIGO. India has been producing indigo from very early times. At first it was widely grown in Bengal. After severe disputes between the European planters and the people, leading to the Rent Act of 1859, the industry migrated to Bihar and the United Provinces. It is also grown in Madras and the Punjab. As a result of the discovery of synthetic dyes, especially in Germany, the industry is declining.

VEGETABLES. Vegetables of many varieties are produced in almost all parts of India, and these occupy in the aggregate a substantial portion of the soil.

FRUITS. Similarly a great variety of fruits are also cultivated, the type varying with the variation of climatic conditions. From the economic point of view the most important is mango; next comes *mahua*. Both are used as food, the latter also yielding oil and liquor.

The areas in British India devoted to the production of important crops are—

	In millions of acres
Rice	80
Millets	41
Wheat	23
Gram	15
Oilseeds	14
Cotton	12
Jute	3
Sugar cane	2.5
Vegetables and fruits	6
Tobacco	1
Indigo	.4
Tea	.7
Poppy	.2
Coffee	.09
Food grains and pulses	210

Jute is produced in India only, although attempts are being made in America to raise jute crops. Of the other principal agricultural products of the world the following figures give the position of India in regard to the total output—

	Wheat (in millions of bushels)	Sugar (in millions of tons)	Tea (in millions of lbs)	Cotton (in millions of bales of 400 lbs)
World's output	3 824	19	900	25
India	370	2 5	292	4 5
Austria Hungary	247	1		
Canada	229			
Ceylon			190	
China			200	3 6
Cuba		2		
Egypt				1 5
France	324			
Germany	160	1 5		
Japan			66	
Java		1 5	58	
Russia	727	2		9
The United States of America	705	8		14
The United Kingdom	61			

MANURE The second item on which the value of lands depends is improvements made by man. On agricultural land these are mainly manure and irrigation. Usually lands in India are not manured. The most important manure is dung of the cattle, which is also used as fuel. Some advantage is taken of rotation of crops, and the efficacy of leguminous plants is widely known. Gram is usually sown for this purpose. On the whole in the matter of manuring lands India lags considerably behind most other countries. Thus in other countries nitrogen is directly given to lands in the form of nitrate of soda, sulphate of ammonia, etc. Another important chemical substance which is essential for plant life is phosphorus. This is

exhausted in the soil by all forms of plant life. This is artificially replenished by giving phosphoric acid to the soil in the form of superphosphates, an important variety of which is bone-meal. A third chemical substance is potassium, which is given to the soil in the form of kainite. There are also various other chemicals which are essential for plant life, but usually these are in such abundance in the soil or so easily replenished by natural processes that there is little need of restoring them to the soil by artificial means.

Minerals.

India is rich in mineral resources. In recent years new deposits have been worked, the products of which are suitable for home consumption or export. But little has been done to develop those minerals which require complicated processes. These are mostly imported from abroad.

The special feature which distinguishes minerals from agricultural land as an economic agent of production is that the exhaustion of the productive capacity of agricultural land can be replenished by means of manures. But the exhaustion of minerals cannot be so restored. Therefore, these are called extractive industries. Hence the need of working them with the most efficient methods is greater than in other industries.

According to the *Manual of Economic Geology* the mineral products of India are classified as follows¹—

1. Carbon and its compounds, including coal, petroleum, amber, and graphite.
2. Metalliferous minerals, including the ores of gold, silver, tin, copper, zinc, lead, antimony, iron, manganese, chromium, nickel, cobalt, tungsten, and aluminium.
3. Materials for construction, including building and ornamental stone, slate, lime, cement, brick-clay, and sand.

¹ *The Imperial Gazetteer of India : The Indian Empire*, Vol. III. Chapter III.

4 Minerals used in various industries, such as abrasive materials, mineral pigments, refractory materials, and materials used for pottery, for other indigenous industrial arts, for agriculture and for the chemical industries, and

5 Gem-stones

We shall study a few details with regard to some of the important mineral products of India

COAL Coal is the most valuable mineral, and the industry supports about 60 per cent of the labourers engaged in mining work. Most of Indian coal is consumed in India especially by the railways. The sources of coal are Bengal, Bihar and Orissa, the Central Provinces, Central India (in Umria), and Hyderabad (Deccan).

PETROLEUM India's sources of petroleum supply lie in the rocks at the eastern and western ends of the Himalayas. On the west the strata extend from the Punjab and Baluchistan to Persia. On the east the strata extend from Assam and Burma to Sumatra, Java and Borneo. Of these sources the most valuable, so far as they have been worked in India, is that in Burma.

IRON The industry of iron smelting almost died out as a result of imported products. It is, however, reviving, e.g. at Jamshedpur. Iron deposits are to be found in Bengal near Barakar, in Dharwar (Bombay) in the Bellary districts of Madras, and some districts of the Central Provinces.

GOLD Gold is obtained either from mines as in Kolar (Mysore), some parts of Hyderabad (Deccan), and Burma, or by washing from river gravels in many parts of India, e.g. Kashmir, Upper Burma etc.

BUILDING STONE It has been in universal use in India from the earliest times. For example the Buddhist *stupas* (e.g. at Sanchi, Sarnath etc.) the Hindu temples of eighth to tenth centuries (e.g. the Dravidian temples of Southern India) and the works of Pathan and Moghul days (e.g. the famous Taj, Fatehpur Sikri) are all built with Indian stones. Of late however, they are imported in

large quantities because they are cheaper and in desirable shapes.

MICA. Mica comes under the fourth group of the above classification. India used to yield more than half of the total production of the world. But now Canada and the United States of America obtain larger yields. The method of working in India is crude ; yet it has proved to be highly profitable. The chief sources are in Bihar and the Nellore and Salem districts of Madras. The latter ores have been worked only during the last thirty years.

SALT. Salt is obtained either from deposits or by evaporation. Rock salt deposits are found in the Punjab and the North-Western Frontier Province, Khewra in the Punjab having been worked from a date much earlier than Akbar's time (sixteenth century). Owing to long periods of hot and dry weather salt is also obtained by the evaporation of sea water. Of inland places the Sambar lake of Rajputana is important. After the monsoon its area becomes about sixty or seventy square miles. Its depth then is between two and four feet. The water gets supply of salt from the bed of the lake. Salt is obtained by evaporation in enclosures made for the purpose.

Of the principal mineral products of the world the figures given on page 50 show the position of India in regard to the output.

Forest.

Forest influences the supply of water to land as also the climate of India in various ways. It acts as a storage of rain water in the soil. At spring time it supplies moisture to the air by the unfolding of the leaves of the trees. Its value to the country is to be seen in various ways. It gives grazing places for Indian cattle. It supplies materials for house building, thatching, etc. It yields fuel. The leaves of trees are used as manure for agricultural land. Forest makes the water supply regular and well distributed during the year. The climate is moderated by the presence

of forest Timber, etc., obtained from forest are of great economic value

The State forests cover about 250 000 square miles, which form about 20 per cent of the total area of British India. The major portion is in Burma. Assam, Bengal, the Deccan plateau, the Central Provinces, Madras, and the Terai lands of the Himalayas. There are about 2 500 species of trees. Teak is very valuable and found in large numbers. Sal is next in importance, and is to be found in the United Provinces, Bengal, the Central Provinces, and Assam. Deodar, sandal wood, sissoo, and black wood are very useful, the first for use as railway sleepers, and the others for building purposes. The sundari wood of the Sunderbans (from which the name) and Burma, padauk of Andamans and Burma, pyinkado of Burma, red sandars of Madras, babul, eng wood of Burma are some others of the important and valuable timbers of Indian forest.

Indian forest products are also very various, some of them being of considerable value. The products are classified under the following heads—fibres, gums and

	Gold (in millions of £ sterling)	Coal (in millions of tons)	Petroleum (in millions of barrels of 42 gallons each)
World's output	95	1 500	361
India	2.3	18	7
Australia	10.4		
Austria Hungary		51	
Belgium		22	
Canada	2.6		
France		40	
Germany		172	
Japan		17	1.6
Mexico	5		18
Russia		26	156
South Africa	40		
United Kingdom		256	
United States	19	502	231

resins, rubber, drugs and spices, edible products, bamboos, canes, animal and other products. The most valuable from the economic point of view are myrobalan, cutch, lac, *mahua* seed, resin, sandal, *sabai* and *munj* grasses, pepper, cardamom, strychnine, etc. The rubber industry is also increasing in India. As yet it is confined to Burma, Madras, and Assam plantations.

The area and distribution of forest in the principal provinces of British India can be seen from the following figures—

Province	Area of Province (sq. miles, ooo)	Forest area (sq. miles, ooo)	Proportion of forest to total area	Net revenue from forest (rupees, ooo)
Andamans . . .	3	2.2	70.2	4
Burma . . .	225	142	63	48,00
Assam . . .	49	22.5	45.7	3,00
Central Provinces	100	20	19.7	15,15
Madras . . .	142	20	13.7	11,80
Bengal . . .	80	11	13.5	5,50
Bombay . . .	123	12.5	10	20,60
Punjab . . .	97	8	8	8,00
United Provinces	107	7.5	7	10,70
Bihar and Orissa	83	3	3.5	1,56

Power.

In India mechanical power has only lately been introduced. As yet it is confined to big industries only. The source of this power is steam or oil. Very little has been done to explore the resources of water-power. In British India it is only in Bombay that attempt has been made to utilize water for generating electricity. The Tata Hydro-electric Works form the only such work. Outside British India, Mysore and Kashmir have utilized the water respectively of the Cauvery and the Indus to generate electricity. It is believed by experts that such sources of power are abundant in India. In this respect Eastern India has

remained practically unexplored, probably because the question is not so acute there, since the coal mines are mostly situated there. But Eastern India is believed to be particularly rich in water power. Thus the prospect of harnessing the Brahmaputra and the Ganges at their source is not very distant. This will considerably increase Indian resources of power.

"It is perfectly safe to say that about 7,000,000 horse power is in sight on the most conservative estimate, and on the basis of absolute minimum continuous power"¹ Some 350,000 horse power has been developed. The Survey has definitely examined sites capable of giving a further 1,500,000 horse power continuously throughout the year. There are known sites, not fully examined, capable of giving more than a further 1,500,000 horse-power continuously. There are more speculative sites of which little is known except that both the water and the distributed falls exist, which Mr Meares thinks as probably good for a further 4,000,000 horse-power. In making this last guess each river or site is mentioned and assessed. Yet there are hundreds of other cases where he is unable to hazard a guess.

He also discusses the water-power of the various provinces. Assam generally has a large amount of potential power, far more than is needed to run all the tea industries. Bengal has large water-power in its Himalayan area, in the Teesta river and its tributaries. So far as is known it has none within economic reach of the industrial area of Calcutta, where coal is still cheap. In Bihar and Orissa there is not a great deal of power, and no thorough investigation has yet been made. Madras is favourably situated in having two monsoons over a good deal of the Province. A considerable amount of power has been located, but it will take several years to examine all the sites. There are several good sites

¹ *Triennial Report of the Royal Society of Arts, 1923*. Paper on 'The Development of Water Power in India' read by J. W. Meares, formerly electrical adviser to the Government of India.

within 80 to 100 miles of the new harbour at Vizagapatam. In the United Provinces the Himalayas are beyond the border in Nepal except at the western end. Yet there are considerable possibilities awaiting development, amounting to about half a million horse-power. The Punjab has only recently begun a systematic survey, but it has been busy with the possibilities of the Sutlej river, where it enters the plains. It is estimated that 100,000 horse-power or more can be obtained on the lowest discharge. Bombay is so well satisfied with its known power that further survey has been stopped since 1921. The Central Provinces, like Bihar and Orissa, have only moderate possibilities. In the North-West Frontier Province there has been no survey, as the country is yet too unsettled for industrial development. Burma has both mineral wealth and power in abundance, but it is hampered by lack of enterprise, lack of roads, and lack of funds for development.

Thus it will be seen that there are tremendous possibilities of development of water-power in India, which can be utilized for the development of Indian industries.

CHAPTER VI

LABOUR

THE second agent or factor of production is labour. The value of labour depends upon the growth of population and its efficiency. The latter again depends upon organization on the one hand and on the other the health and strength of the population, the character, and the acquired skill or technical training of the labourers. Thus labour depends upon (1) Growth in number (2) Efficiency (i) Health and strength, (ii) Character, (iii) Acquired skill.

Growth of Population.

Towards the end of the eighteenth century Malthus wrote his *Essay on the Principle of Population*, in which he formulated the theory of population which is yet true although it is subject to criticism in detail. Malthus laid down the following three propositions with regard to the growth of population—

1 'Population is necessarily limited by the means of subsistence.' The total number of a country cannot increase beyond a certain limit. That limit is set by the means of subsistence, which are necessary to support that number. This limit fixes the maximum number which that country can support. Of course, this maximum number will vary in different countries according to the variation in the standard of living that is, the requirements which are essential for man in that country. This standard itself may vary from time to time but the ultimate limit is set by the minimum physical requirements of man. Thus the means of subsistence form the demand for labour, the supply being the total population actually existing.

2 'Population invariably increases when the means of subsistence increase unless prevented by powerful and obvious checks.' Taking a particular country as it is if

there be an increase in the means of subsistence, then, with the existing standard of living, that country can support a larger number of population than before. Normally it is found from experience that, whenever there is such an increase, the population, in response to this increase in the means of subsistence which fix the demand for population, increases also. It should be noted that the increase in the means of subsistence must be evenly distributed among the population before there can be a general increase in the number of population.

3. "The checks which keep the population down to the level with the means of subsistence" are positive and preventive. (a) Positive checks are those which increase the death rate and immediately reduce the number, e.g. war, pestilence, etc. (b) Preventive checks are those which diminish the birth rate and ultimately reduce the number, e.g. moral restraint, vice, artificial checks to births, etc.

The power of the population to increase is vastly greater than the power of the earth to produce subsistence for man. Thus the difficulty of getting subsistence is a constant check upon the growth of population. Therefore, the effects are vice and misery. The net result is that society oscillates between comparative comfort and distress. When the limit has been reached it is a period of distress. At that time, owing to insufficiency of the means of subsistence for the whole population, diseases make their headway in the country. Or, it may lead to disastrous wars. As a result there is a reduction in the number which brings about a period of comparative comfort. This continues till the higher rate of increase in population overtakes the slower rate of increase in the means of subsistence, and another period of distress starts. The period of comparative comfort can be made long, and the evil day of distress postponed by (1) development in the arts of production, which will increase the means of subsistence; and (2) checking the growth of population by exercising moral

restraint The Neo Malthusians advocate the restriction in number by using artificial means which will prevent the increase in number by stopping conception whenever desired

Thus we see that economic prosperity is a function of two variables viz the means of subsistence and the population It varies directly as the former and inversely as the latter As the latter tends to increase very much faster than the former it is impossible to retain prosperity unless effective checks to the growth of population be devised In this respect whatever dissociates marriages from the responsibility of supporting the family is a drag on the society (From this point of view the system of early marriage and joint family in India are harmful) Both favour an increase in the birth rate without any reference to the means of acquiring wealth In this connection an important means which will solve the problem so far as it can be solved is to attain to a rigidity of the standard of living so that a man will love his material welfare so much as to refuse to set up a new family which will mean its lowering This looks sordid but this is the only effective means of obtaining and retaining the material prosperity which is achieved by harnessing Nature for supplying the needs of man

Health and Strength of the Population

The physical conditions of health and strength of a people affect their efficiency as producers These depend upon many factors including those which affect the rising generation The causes which determine the strength of body and vigour of mind are mainly—

I LABOURER'S PHYSICAL SURROUNDINGS The influence of these is ordinarily very great These physical surroundings include (a) climate which according to its nature makes a man capable of working hard or the contrary and (b) the quality of the labourer's food and other necessities These determine the conditions which give him

the necessary things as a help to efficient production. For example, the Indian diet as contrasted with the European diet has less protein. Such differences are partly the result of climatic and racial differences.

2. LABOURER'S STATE OF MIND. "Freedom and hope increase not only man's willingness but also his power for work." "Security of person and property are two conditions of this hopefulness and freedom." "Changes of work, of scene, and of personal association in every way develop creative energy." "Self-mastery is an even more important condition for the highest work. The elevation of the ideals of life on which this depends is due on the one side to political and economic causes, and on the other to personal and religious influences."¹

3. LABOURER'S OCCUPATION. The occupation affects the physical condition of the labourer. Agricultural work in open air is different from the work of the miner, whose occupation keeps him underground. Factory work has its effects upon the nerves. Occupations which compel man to live in the towns have different effects from those in the rural areas. The effects of the labourer's occupation are to be measured not only by those upon himself, but also by those upon his family members, especially his children. Town life has some specially deleterious effects upon infant life.

4. LABOURER'S CHILDREN. Thus the conditions in which the labourer's children are reared are of special national importance because the future generation of labourers are thereby affected. The number, as also the physical condition, depends upon the early environment. (Such questions as the age of marriage, the home life, the physical environment in which they live, the occupation of the mother, etc., affect the rising generation of labourers,) and are probably of greater national importance than even the physical fitness of the labourer himself.

¹ A. Marshall, *Economics of Industry*, Book IV, Chapter v, Section 3.

Character of Labourer.

The efficiency of the labourer also depends upon his character. One who takes an intelligent interest in his work is more efficient than one who does not do so. One who is honest does not require much superintendence. The character depends upon racial characteristics, the social influences in which the labourer lives, the general education and the stimulus which he receives as a sharer in the product of the industry to which he belongs.

Acquired Skill.

The third factor which determines the efficiency of the labourer is his acquired skill. Industrial training is an important factor in modern days. This includes not merely manual dexterity in handling complicated machinery, but also that general understanding of the business system and industrial organization of which the labourer is a part. For this purpose a sound general education is essential. Also industrial training will be merely mechanical handling of instruments without a proper understanding of his work if it be unaccompanied by general education.

Indian Labour.

According to the Census of India Report for 1921 the total population of India was 319 crores, an increase of 12 per cent over that in 1911. The increase is so small mainly because of the influenza epidemic of 1918-19 which carried away a terribly large number. The distribution of this population into occupations is as follows—

	Percentage of the total population
(A) Production of raw materials	
1 Pasture agriculture and hunting	71.98
2 Exploitation of minerals	17
(B) Preparation and supply of material substances	
3 Industry	10.5
4 Transport	1.4
5 Trade	5.7
(C) Public administration and liberal arts	
6 Public force	7
7 Public administration	8
8 Professions and liberal arts	1.6

(D) Miscellaneous :	Percentage of the total population
9. Persons living on their income	15
10. Domestic service	1.5
11. Insufficiently described occupations	3.5
12. Unproductive	1

A large number of persons have more than one occupation. The above only indicates the main occupations. "There are dual occupations whose intimate association by nature or custom is a feature of Indian mofussil life, such as money-lending, shopkeeping, and grain dealing ; fishing and boat-keeping ; sheep breeding and blanket weaving ; cattle breeding and dairy farming ; field labour and mill labour ; while the cottage industries such as weaving, pottery, etc., are frequently combined with other forms of occupation such as cultivation, carting, or general labour."¹

The main occupation in India is agriculture, which engages 71 per cent of the population. Besides, many others adopt it as a subsidiary occupation. Next comes industry with 10.5 per cent, and then follows trade with 5.7.

Moreover, as a result of the competition of machine-made goods, both imported and made at home, a large number of artisans are driven to agriculture as a profession. Thus we find that in 1891, 62 per cent of the total population subsisted on land ; in 1901 the percentage was 68 ; in 1911 it was 72 ; and in 1921 it was 73. This last was really no improvement, since during the decade ending 1921 the total population increased by only 1.2 per cent.

Of the total number about 90 per cent live in villages. The variation in percentages is as follows—

	1891	1901	1911	1921
Rural	90.5	90.1	90.5	89.8
Urban	9.5	9.9	9.5	10.2

¹ The Census of India Report, 1921, Part I, p. 239.

The provinces vary greatly in their distribution of rural and urban population. The figures of 1921 are—

	Rural	Urban
India	89.8	10.2
Provinces	89.9	10.1
Indian States	89.7	10.3
Assam	97.7	2.3
Bengal	93.2	6.8
Bihar and Orissa	96.0	4.0
Bombay	77.3	22.7
Burma	90.2	9.8
The Central Provinces and Berar	90.0	10.0
Madras	87.5	12.5
The Punjab	89.3	10.7
The United Provinces	89.4	10.6

The number of towns is gradually increasing while that of villages is declining thus—

Number of	1891	1901	1911	1921
Villages	713,925	728,605	720,342	685,622
Towns	2,034	2,145	2,150	3,313

Judged by the output of work Indian labour is inefficient as compared with that of most other countries.¹ But

¹ The inefficiency is not so great as is ordinarily supposed. The United Kingdom works with much better implements and on a larger scale. Yet the figures of output are—

	Total value of agricultural output in millions of rupees*	Total area under actual cultivation in millions of acres	Value of agricultural output per acre in rupees	Total agricultural population in millions	Value of agricultural output per head of agricultural population in rupees
India	17.250	223	77	178	97
The United Kingdom	2,946	47	62	3	982

* This is the gross income from agricultural lands from which the expenses of farm or should be deducted to get the net income. The remainder is the share of the cultivator, the landlord or landlord middlemen, all the merchant middlemen dealing in agricultural output and the State.

The figures for India are taken from the *Estimates and Yield of*

efficiency of labour is dependent upon several factors. Even when properly trained, a labourer's efficiency depends upon his personal capacity and upon organization. A very efficient labourer, if he be part of an inefficient organization, may be producing comparatively little. Indian agricultural labour, which mostly works independently, is not so inefficient.

"At his best the Indian *ryot* or cultivator is quite as good as, and in some respects the superior of, the average British farmer, while at his worst it can only be said that this state is brought about largely by an absence of facilities for improvement which is probably unequalled in any other country."¹ Agricultural labour is also very assiduous. The most arduous work is the cultivation of the Terai lands on the slopes of the Himalayas. Rice cultivation is also hard work. All this is done with a few simple and crude implements, the use of which puts great strain on manual labour. Industrial labour is said to be very inefficient. But this also depends largely upon organization and training. When properly organized and trained it can become very efficient. Sir Thomas Holland, president of the Indian Industrial Commission and of the Munitions Board, and Member of the Viceroy's Executive Council in charge of Industries, says: "In India we have means of obtaining all the expert labour that is necessary. Anyone who has visited the Tata Iron and Steel Works will come away thoroughly convinced with the conclusion that with Indian labour you can tackle any industry for which the country is suitable. I have seen labourers at Sakchi (Jamshedpur)

Principal Crops in India, 1919-20, No. 1344, 1921, and the *Prices and Wages*, 1920, No. 1512, 1922. Those for the United Kingdom are taken from the *Final Report on the Census of Production*, Cd. 6320, 1913. Allowance should be made for the increase in English prices since 1913, which is a little less than 100 per cent. Thus the value of agricultural output per acre would be R.77 in India, and about R.120 in the United Kingdom. But the average acreage per individual is so different that the value of agricultural output per head of agriculture population is R.97 in India and about R.1,850 in the United Kingdom.

¹ Dr. Vocleker's *Report on Improvement of Indian Agriculture*.

who only a few years ago were in the jungles of the Santals without any education. They are now handling red hot steel bars, turning out rails, wheels, angles of iron, as efficiently as you can get it done by any English labourer. You cannot have a better test of the quality of labour, and you cannot be prepared for more satisfactory results. (When your labour is organized and properly educated and properly fed there is not the slightest doubt that you will get results that will suit all raw materials available in the country.) The whole question is largely of the methods we should adopt for getting information regarding our own materials, and training people to suit the needs of industrial development."¹ From this it seems that the employers do not always know how to procure and train labour, and how to make it efficient. Mr Sakalatwala, Chairman of Bombay Millowners' Association in 1917, says "Unless the mentality of the workman is improved by primary education, so as to enable him to take an intelligent interest in his work, there can be no improvement in skill, and again, unless he is well paid, comfortably housed, and provided with innocent amusement and recreation, there will be no sufficient inducement for him to give steady attendance, which is one of the requisites for maintaining the acquired skill at a high level."² Thus it is recognized, even by the employer, that Indian labour is satisfactory when properly trained and organized. The success at Jamshedpur confirms this view. The scope for such training is very limited, and there is little doubt that, granted proper facilities, Indian labour can be as efficient as labour in any other country. Facilities for such training, however, can be given by the Government of the country. X

The total number of workers engaged in organized industries, numbering about 16 000, is about 27 lakhs, of which about 7 lakhs are skilled workers. The distribution in important industries is—growing of special products,

¹ In a speech at Madras in 1918

² The annual address of the Chairman in 1917

31 per cent ; textiles, 29 per cent ; mines, 10 per cent ; metal, 6 per cent, etc.

The density of population in India varies from province to province. As the country is mainly agricultural the density naturally varies according to the soil and its suitability for growing valuable crops. The numbers per 1 square mile are—

India	177	The Netherlands	544
British India	226	Germany	332
The Indian States	101	Japan	215
Belgium	654	France	184
England and Wales	649	The United States	32

The figures for the provinces vary a good deal, and are as below¹—

Bengal	608	Bombay	157
The United Provinces	427	Assam	143
Bihar and Orissa	409	The Central Provinces and Berar	139
Madras	297	Burma	57
The Punjab	207		

Density of population depends upon a variety of causes. In an agricultural country like India it mostly depends upon circumstances, which favour steady and uninterrupted cultivation of the soil. The causes may be summarized thus—

1. RAINFALL. This is an essential element for the prosperity of agriculture. A stable supply of rainfall from year to year is a great help for the growth and prosperity of the population.

2. NATURAL CONFIGURATION. This helps the use which an abundant rainfall gives to agriculture. In Eastern Bengal, owing to the natural system of drainage, the rainfall does not lead to water-logged areas ; here the population in some places is over 1,000 per square mile. Whereas Western Bengal, with practically the same rainfall, is unhealthy for want of proper drainage.

3. RIVER SYSTEMS. Rivers fertilize their banks and

¹ *The Census of India Report, 1921, Part I, Chapter 1.*

facilitate the use of water for inland areas. Often as in Bengal, these overflow the banks and deposit silts which greatly improve the land. The most permanent river system in India is the Ganges, the Jumna, the Brahmaputra, and the Indus, the former with a large number of branches and tributaries in the deltaic areas of Bengal.

4 **IRRIGATION** An artificial supply of water may turn traditionally arid lands like Sind and the Punjab into fertile soils. The wonderful change in the canal zones of the latter during the last quarter of a century is a proof of the immense value to agriculture of an artificial and regulated supply of water.

5 **SOIL** Apart from the supply of water, the constituents of the soil are an important factor. The alluvial soils are more suitable for certain crops than others. The soil may be rich or poor in the chemical substances which are essential for cultivation.

6 **CROP** Growth of crops depends upon other factors as well. Rice and jute cultivation is easy on lands which get a plentiful supply of water inundating the fields. Tea cultivation requires abundant rainfall, but the water must not stand on the land. Hence it is best on the slopes where there is heavy rainfall. On the slopes of the Himalayas and the Nilghiris tea and coffee cultivation has converted otherwise barren lands into highly valuable ones. Wheat and cotton require less water, but there should be winter moisture. This is abundant in Northern and Central India owing to the extreme variations of temperature between day and night in winter. Humidity also affects crops, a humid climate being good for rice, jute, tea, coffee, coco nut, etc., and a dry climate for wheat, cotton, millets, etc.

7 **TRANSPORT** If cheap and rapid means of communication are available, population tends to move there, provided that the place is otherwise attractive for purposes of production. Sometimes proper information is not available about the suitability of an area for such development.

8. INDUSTRIAL DEVELOPMENT. Development of manufacturing industries brings about a concentration of population as nothing else does. Calcutta, Bombay, Cawnpore, Jamshedpur, have grown populous in this way. The same is the result when trade and commerce develop in any part of the country. Working of mines, especially coal mines, has a similar, though as yet less pronounced effect. In this connection the following figures for some cities may be of interest¹—

	Population in 1921	Number of per- sons per sq. mile	Percentage of variation			
			Increase (+)	Decrease (-)		
			1911-21	1901-11	1891-01	1881-91
	(000)	(000)				
Calcutta	1,327	21	+ 4.3	+ 11.0	+ 22.9	+ 12.5
Bombay	1,175	48	+ 20.1	+ 26.2	- 5.6	+ 6.3
Rangoon	341	4	+ 16.6	+ 19.5	+ 34.8	+ 35.7
Delhi .	304	4	+ 30.7	+ 11.6	+ 8.3	+ 11.1
Lahore	281	6	+ 23.2	+ 12.7	+ 14.8	+ 12.4
Ahmedabad	274	24	+ 17.7	+ 16.7	+ 25.3	+ 16.3
Lucknow	240	1	- 4.6	- 1.7	- 3.3	+ 4.5
Karachi	216	19	+ 42.8	+ 30.2	+ 10.9	+ 43.0
Cawnpore	216	22	+ 21.2	- 12.0	+ 4.5	+ 24.9
Benares	198	19	- 2.6	- 4.4	- 4.6	+ 2.2
Allahabad	157	10	- 8.4	- 0.2	- 1.8	+ 9.4
Nagpur.	145	7	+ 43.2	- 20.6	+ 9.2	+ 19.0
Patna .	119	7	- 11.9	+ 1.0	- 18.4	- 3.2
Dacca .	119	17	+ 10.0	+ 21.0	+ 10.0	+ 4.1
Ajmer .	113	6	+ 31.7	+ 16.8	+ 7.2	+ 41.3
Jubbulpore	108	7	+ 8.1	+ 11.2	+ 6.9	+ 11.4

9. HISTORICAL CAUSES. Many places have grown populous because they were centres of culture and civilization in a preceding age. Of the above cities, Delhi, Lucknow, Benares, Agra, Allahabad, Patna, etc., grew like that. Of these only Delhi is keeping up its prosperity. Most others are declining.

Migration.

Figures for migration are not very accurate. Within the country there is a good deal of movement of the

¹ *The Census of India Report, 1921, Part I, p. 72.*

population, of which little statistical account is taken. Immigration to Assam and Burma and certain parts of Berar seems to be considerable. During the harvesting season field labourers migrate to Bengal from the neighbouring provinces and spend, on the average, about six weeks and then return to their homes. The labourers in the jute mills near Calcutta come mostly from outside the province. Calcutta contains a huge imported population from all parts of India, especially from Northern India. The number of foreigners coming from outside India is not very large, although in the aggregate, it is good. Of emigration outside India little record can be obtained. Emigration to Africa and other parts of the British Empire has practically ceased. But emigration to Persia, Afghanistan, Nepal, China, and other countries of Asia remains. As no census is taken in these countries it is impossible to know the number of Indians residing in these countries. Under its new policy of development Afghanistan is drawing not only ordinary labour and petty merchant class, but also educated people of better classes. A good number, especially from Madras, have settled in Ceylon. On the whole it seems that the tendency of emigration outside India is declining mainly as a result of the growing consciousness of Indians about the political disabilities of the emigrated Indians in other parts of the British Empire.

Health and Vital Statistics.

As compared with other countries the health of Indians is very bad. This is both the cause and the effect of the poverty of the people. The important diseases which have a large number of victims are plague, cholera, influenza, malaria, and "fever" under which are usually placed dysentery, pneumonia, phthisis, relapsing fever, etc. During 1901-11 plague was responsible for the death of about 65 lakhs. It has, however, little sway over Southern India and Bengal. Cholera is usually most virulent in Eastern India. But it is being successfully combated, and the

death rate was only 1.5 per cent during 1911-21. Malaria is endemic in many parts of India, especially where the natural drainage system is defective, and the rain water is not drained off. Besides increasing the death rate it permanently lowers the vitality, and therefore the economic efficiency of the victims as also the birth rate. "In parts of Western Bengal the population has been described as sodden with malaria."¹ Phthisis is particularly virulent in the cities of Western India, but unfortunately there is no statistical record of the deaths from this fell disease. In recent years, however, all other diseases have been overshadowed by the tremendous death rate from influenza, which broke out as an epidemic in India in 1918, and continued into 1919. Mortality was specially high among adults, and this naturally affected the economic efficiency of the nation. According to official figures, which are admitted to be defective in recording deaths from influenza owing to the complete breakdown of the reporting staff,² the total number of deaths in 1918-19 was about 85 lakhs. "The effect on the general health of the people is shown by the reaction on birth rate, which dropped below the death rate in 1918 and 1919, and only gave a slight excess in India in 1920."³

Standard of Living.

The main reasons why India is subject to such visitations of diseases are ignorance and the low standard of living. Owing to ignorance, diseases which are distinctly preventable yet have a large toll of victims. The low standard of living is responsible for the insanitary conditions in which most diseases flourish. This low standard is partly due to the congestion on land as a source of income, whereas it is worked with the age-old methods of cultivation. Therefore, the pressure on the soil is intense, and yet it grows

¹ *The Census of India Report, 1921, Part I, p. 12.*

² *Ibid.*, p. 13.

³ *Ibid.*, p. 14.

apace. The acreage of cultivated area per head of the agricultural population is only 15, whereas in the United Kingdom it is about 16. Thus, together with the improved methods of farming in the latter country, shows the difference in the economic condition of the agriculturists of the two countries. Sir T. W. Holderness says "Subtracting the land utilized for supplying foreign markets from the total area under cultivation, we shall find that what is left over does not represent more than two-thirds of an acre per head of the total population. India, therefore, feeds and, to some extent, clothes its population from what two thirds of an acre per head can produce. There is probably no country in the world where the land is required to do so much."¹ Therefore in spite of the rising prices of agricultural products, the condition of the people has not much improved. On the other hand owing mainly to increasing subdivision of land, the resources of the people have a tendency to decrease. The net result is a huge number of the population who live on the margin of subsistence (In all countries the greatest increase in population is among those in the lowest strata of life.) Thus there is a proportionately greater number in India whose economic resources are slender, and whose fecundity is the greatest (This tends towards continuous degradation of the standard of living.) Moreover, in India unskilled work engages by far the largest number of people, and unskilled workers are naturally most mobile from one occupation to another, since they require little technical skill or experience of work (Thus the lowest classes, by competition in most trades, fix the standard of living for all the unskilled workers. This tends to lower the standard of living for all in the country except a few, who are above competition from them.)

The situation is further complicated by certain social and religious customs, which dissociate the growth of population from the responsibility to support it. Notable

¹ *Peoples and Problems of India*

among others are the joint family system and the practice of early marriage. The one makes the members less self-reliant, and the other increases population without any reference to an individual's capacity to maintain his progeny. The result is an increase in the number which can hardly be supported even at the present irreducible minimum of the standard of living, which in itself is economically inefficient. This, coupled with ignorance of and indifference to hygienic rules, is responsible for the appalling birth rate, and equally appalling death rate. In this connection it may be noted that modern scientists think that in man fecundity is greatest when the subsistence is the lowest. And as prosperity of a country depends upon its wealth and its population, decrease in wealth, by increasing the number of the latter, tends to act cumulatively. Therefore, the above theory, if correct, makes the prospect darker than it otherwise would have been.

CHAPTER VII

CAPITAL

In Chapter III capital has already been defined as that part of wealth which is not immediately consumed but left over to help future production. It is distinguished from land in that it is the product of past labour, and not given by Nature. It is distinguished from consumption wealth in that it does not directly satisfy the wants of its owner, but indirectly does so by producing more wealth for him. Wealth may be in two forms viz (1) ready for immediate consumption, e.g. a stock of wheat and (2) not so available, e.g. machinery and implements. The latter is always capital. The former is consumption wealth if used by its owner to satisfy his own wants or the wants of others without any hope of material gain, or it may be used as capital when there is some hope of such gain. A portion of the stock of wheat may be used as next year's seed or may be given as part payment of wages to labourers engaged by the owner for productive purposes.

Capital and Labour.

Sometimes capital is taken to include organization as in the era before the coming of the joint stock companies, and the question is raised whether there is a harmony or conflict between labour and capital in this sense. It is apparent that in the process of production there is only harmony of interest, for it is the interest of both to have as large an output as possible, which will be divided between the two. But in distribution there may be a real conflict. For once we assume the process of production to be complete, the greater the share of one the less must be that of the other. Even here the conflict has limits. It can never be the interest of capital so to reduce the share of labour as to diminish its productive efficiency, nor can it be the

interest of the latter so to diminish the share of the former as to drive it out of the work, and thus reduce saving in the community. But within these limits there is a real conflict between the interests of capital and labour in the process of distribution.

The Amount of Capital Available.

Capital as we understand it now is an important factor of production. In modern times capital makes production very efficient. The amount of capital available for working the natural resources of a country determines the economic development of that country. Therefore, it becomes necessary for us to study the causes which determine the amount of capital in a country.

It is evident that the maximum limit beyond which the total capital of a country cannot increase is determined by the surplus of the national dividend over the total wealth consumed. If this surplus is small the increase of capital must be small too. This excess may not wholly be used as capital. There are other demands on it. For example, the taxes and other dues which a community has to pay to the government and other administrative bodies come from this source.

On the whole, we may say that, with an increase in this surplus, there is likely to be an increase in the supply of capital. This surplus depends upon two factors, viz., the total production of wealth of the country, and the total consumption of the people thereof. It varies directly as the former and inversely as the latter. Even when the surplus is possible it may not be for use as capital. Thus there are two series of causes which determine the accumulation of capital in a country, viz.—(a) the power to save, and (b) the will to save.¹

(a) The power to save depends upon whatever increases the productive capacity of the country. The factors

Vide J. S. Nicholson, Principles of Political Economy, Book I, Chapter VIII.

are all those which affect national production. They are—

1 **NATURAL RESOURCES AND POWERS** If a country is rich in these it will have greater wealth and therefore greater capacity to save.

2 **EFFICIENCY OF LABOUR AND CAPITAL** The labour and the capital already existing determine the production of wealth in the near future and therefore the capital which will be accumulated in future.

3 **THE AMOUNTS TAKEN BY THE GOVERNMENT FOR PUBLIC PURPOSES** If they are very large then there will be so much less for the people to save by way of future capital.

4 **INDIRECT EXPENSES AND BURDENS** Besides the actual amounts taken by the Government there may be other ways which may reduce the production of wealth. If indirect expenses of producing wealth be increased e.g. by restraint on trade by imposition of duties or otherwise the trade does not earn as much as it might without such restraints. Or if the Government puts any other burdens which affect production e.g. conscription by which all persons must undergo military training for a certain period the capacity of the people to produce wealth diminishes to that extent.

5 **THE NATURE OF THE EXPENDITURE OF THE PUBLIC REVENUE** It may be spent so as to help national production e.g. railways, irrigation or it may be spent unproductively.

6 **THE EXTENT OF FOREIGN TRADE** Inasmuch as every act of voluntary exchange must bring to each party a surplus of utility the greater the extent of the trade of a country the greater must be its wealth. There may however be cases when an increase in foreign trade may not bring a proportionate increase in the surplus wealth.

7 **THE MEANS OF TRANSPORTATION AND COMMUNICATION** These reduce the cost of marketing and bring the

conditions of distance market within easy knowledge. This increases the wealth of a country.

8. THE CREDIT SYSTEM OF THE COUNTRY. This acts in several ways. It economizes the use of money, and, therefore, obviates the need of locking up wealth as medium of exchange. It helps to bring together for effective use as capital all wealth which is saved and lies scattered all over the country. This wealth, when brought together, is lent by banks to finance the trade and industries of the country.

(b) The will to save depends upon whatever reduces consumption which does not increase efficiency. Consumption which increases efficiency is not really increase in consumption, as such increase means greater production of wealth. But whatever consumption which does not increase productive efficiency is reduced, helps towards saving of wealth for future use as capital. The factors upon which the will to save depends are—

1. SECURITY. In order to be induced to save one must be sure that what he saves will be preserved to be enjoyed by him or his people for whom he wants to save. This includes (a) security by the State against violence, disorder, fraud, etc., on the part of other members of the community ; (b) security against the exactions of the State itself ; these may be arbitrary or tyrannous or excessive ; (c) security against the violence and uncertainty of the powers of Nature, e.g. frequent earthquakes, volcanic eruptions, floods, etc.

2. INTELLECTUAL DEFICIENCY. This is what Marshall indicates by the "telescopic faculty of the mind." Some people do not realize the future as vividly as others. These will save less than the latter for some distant contingency.

3. MORAL DEFICIENCY. A man's moral perceptions may not be strong enough to induce him to save. One who has no strong interest in others, or sufficient affection for the members of his family, or no desire to avoid dependence

in old age will save less than another person in whom the above desires are very strong

4 HOPE OF RISING IN THE SOCIAL SCALE In modern societies the possession of accumulated wealth is an important means of attaining to high position in life. There is also an importance attached to the mere possession of wealth. To some this will appeal and they will save wealth for this purpose. By so doing they are really contributing towards the increase of the country's capital.

5 FACILITIES FOR INVESTMENT These directly induce people to save and earn a permanent income. Organization of banking including savings banks is very important. Also facilities given to petty investors to buy Government loans or shares of joint stock companies help not only to save wealth but to utilize it for purposes of production if government loans are properly utilized.

6 THE RATE OF INTEREST Ordinarily a high rate of interest induces people to save more. In our discussion on margin in economics (Chapter III) we saw that the margin in capital is at a point where the satisfaction obtained from marginal consumption is just more than the future income obtained from the use of wealth as capital. If this income which is interest increases the margin in consumption rises and more wealth is kept off from consumption to be used as capital. But to this there are two exceptions. A high rate of interest may indicate insecurity as for example in times of panics and crises when instead of being an inducement to save it may drive out capital from the market and if the process continues for a long period may reduce capital and increase consumption. The second exception is in the case of that limited number of persons who determine on saving a definite amount during a certain period. To these an increase in the rate of interest means that they will save less per year in order to get that definite amount at the end of the period since a smaller amount at a higher rate of interest will give

them the same amount. But the number of such persons is very limited in all countries.

Kinds of Capital.

In modern times capital has various forms. It is sometimes classified accordingly. When capital performs all its function in one use it is called "circulating," e.g. raw cotton, coal, etc. Where its function is achieved by repeated uses it is called "fixed," e.g. machinery, tools, building, furniture, etc. Or, it may be consumed, e.g. food, clothes, houseroom, etc., for workers; and auxiliary or instrumental capital, e.g. raw materials, machinery, etc.

Machinery.

In the complex organization of modern production, machinery plays an important part. The advantages of machinery are many and various. The more important ones are—

1. The work which machinery performs is the one which used to put the greatest strain on human muscles. Thus there is a relief to the more fatiguing part of man's work.

2. Heavy work which could not have been done by man can be now done by machinery.

3. As the operation of machinery is simple it is possible now for average workers to produce things which formerly could be done only by exceptionally good workers. This is in spite of the fact that the operation of machinery requires higher faculties than what the old labourer was required to exercise.

4. Machinery produces much more rapidly than any hand worker could ever hope to do.

5. The work which is uniform or monotonous is usually taken up by machinery. Thus it lessens the monotony of life.

6. The principle of operating on machinery being more or less the same, the barrier between different trades or between different grades of the same trade is being removed

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since one who has worked with machinery in one trade or grade can quickly learn the working of the machinery in another trade or grade

7 The system of "interchangeable parts" (Marshall) has immensely increased the usefulness of machinery. As machinery can produce exactly the same thing mechanical instruments can be used widely, and their parts available everywhere make their use uninterrupted. Also as the identical output can be turned out by all mechanical agents, standardization of consumption goods on a wide scale, as in America, is possible.

8 From the point of view of the workers, machinery economizes labour, and therefore increases productive efficiency.

9 From the point of view of the general body of the people this productive efficiency tends to lower prices and raise the economic standard of living.

There are, however, some disadvantages of the use of machinery. Most of these are minor and, as compared with the great advantages, insignificant. An important defect seems to be the great nervous strain from the noise in its operation.

Agricultural Capital in India.

The most important agricultural capital in India consists of ploughs, cattle, etc. Of this the difficulty has been to increase the quality of cattle. The total agricultural population is 178,000,000 in British India. The number of cattle in millions is 55 draught animals, and 51 milch cattle. Therefore, per 100 of agricultural population there are 80 heads of agricultural animals and cattle. The percentage of agricultural draught animals to the agricultural population is 30, and that of milch cattle to the total population is 21. The percentage of draught animals to total cropped area in acres is 25.

The respective increase in the number of population and cattle can be seen in the following table—

(In millions)	1900	1910	1920	Percentage increase of	
				1910 on 1900	1920 on 1910
Total population .	232	244	247	5	1
Agricultural population .	151	169	178	12	5
Total livestock .	137	174	209	27	20
Bovine including buffaloes .	87	119	149	37	25
Ovine (Goats and Sheep) .	47	52	56	11	7

The hoarding habit of India has become proverbial. It is doubtful, however, to what extent this is due to purely hoarding habit, and to what extent due to the want of banking facilities and to social requirements in the form of ornaments, etc. The great success of the postal savings bank and the postal cash certificates shows that it is not very difficult to tap this source to augment the active capital of the country.

The hoarded wealth of India has been variously calculated between 600 and 800 crores of rupees. Even taking the highest amount, it comes to less than R.30 per head of the population.

In India it is said that capital is shy. Whatever might have been the case in the past, when the traditions of unsettled government and frequent invasions were too fresh in the minds of the people, it can hardly be said now that this is so. The Tata Steel and Iron Works of Jamshedpur has shown that a real organizer of business can attract capital in India. The real difficulty in the way of drawing out the hoarded wealth of India for use as capital seems to lie in the paucity of entrepreneurs of the right type, in whom the people have confidence, and in the practical absence of banking facilities in rural areas. The recent success of the system of postal cash certificates shows that people are gradually understanding the advantage of investment.

Roads.

Northern India has always had good roads. The Grand Trunk Road, the Agra-Bombay Road, and many smaller ones in the United Provinces and the Punjab, have existed for a long time. At present India has a large number of roads, although their number and condition are not adequate for the vast country. Except near towns the most important means of conveyance in rural India is yet the cart drawn by draught animals. This is the means of transporting both men and goods. In towns and cities horses are largely used, and motor lorries are coming into use in the bigger places.

Railroads.

Railways were first introduced in India in the fifties of the last century. Now India has about 37,000 miles of railways. In the beginning the Government had to guarantee a certain minimum profit to the railway companies in order to persuade them to construct railways in India. This led to excessive expenditure, as there was no incentive to economy. Next the Government constructed railways. But war and famine reduced the Government's resources. Then the Government was compelled to renew the guarantee system but on easier terms. The new system was "State lines worked by companies." At present most of the important lines belong to the Government. Some are worked by the Government, e.g. the A B Railway, E B Railway, O & R Railway, N W Railway, C I Railway, G I P Railway. Some others although owned by the State, are worked by companies, e.g. B N Railway, B B & C I Railway, etc. As a result of the recommendations of the majority of the Railway Commission presided over by Sir William Acworth, the Government has decided directly to work the lines now managed by companies on the termination of the present contracts.

Indian railways consist of three gauges. The broad gauge is 5 ft 6 in. The metre gauge is 3 ft 3½ in. The

narrow gauge is mostly 2 ft. 6 in. with some lines of 2 ft. gauge. This variety of gauges is a disadvantage now, because through transport cannot be carried on without transshipment.

The total mileage of railroad in India is more than 37,000. The passenger traffic is about 60 crores, and the goods traffic about 100,000,000 tons.

A glance at the railway map of India shows that the Indo-Gangetic valley has been very well provided with railroads. In the rest of India the lines chiefly connect the ports with the internal distributing centres, and thus serve mainly the traffic to and from the ports, although the intermediate places are incidentally benefited.

Indian railways did not earn much profit till 1904, except in 1877 and 1880. The dividend never reached 6 per cent. After that year the profit was also below that in 1908, 1909, 1910, 1914-15. Again, it has gone below 6 per cent since 1921. The total capital outlay on Indian railways is more than R.700 crores. The total gross earnings were about R.89 crores in 1920, that is, the year before the present slump in trade. The working expenses in that year were R.50.65 crores. Thus the proportion of working expenses to gross earnings was about 57 per cent, leaving a net profit of 6.80 per cent on the total capital.

Economic Effects of Railways.¹

The spread of railways in India has been highly beneficial. The effects may be considered under various heads—

I. EFFECT ON PASSENGER TRAFFIC. In comparison with the poverty of the people the increase in passenger traffic has been considerable. (a) Railways have helped the quick movement of pilgrims to the various Hindu shrines within the country, and what was very costly and involved many months can now be accomplished with very little expense and in a few days. Journey to Mecca has been made easier, and this has attracted travellers from Central Asia. The

¹ *The Imperial Gazetteer of India : The Indian Empire*, Vol. III, Chapter VII.

volume of this pilgrim traffic cannot be realized by those who are unfamiliar with the strength of religious motive among Indians, both Hindus and Mussalmans (b) Also general passenger traffic has increased "Cheap easy, and quick communications enable the surplus population in congested areas to move to the more sparsely populated parts of the country, where labour alone was needed to make the soil yield bountiful harvests. Thousands now travel annually to the jute-fields and tea gardens of Eastern Bengal and Assam, the rice swamps of Burma, and other parts of the country, and distance no longer hinders the movement of the people. The greater the extension of the railway system the more marked has this movement been, and the passenger traffic contributes to the business of the railways to a very much larger extent than was anticipated. The development has been in all classes, but the principal increase has been in third class passengers." ¹

2 EFFECT ON GOODS TRAFFIC Goods traffic is naturally the most important in India. Railways have extended the market not only within India but also outside. This extension has a twofold effect—(a) The producer can sell at the best market, and thus his income has tended to increase considerably. (b) Owing to easier transportation there tends to be the same price all over India, and thus there is a greater cohesion of the market throughout India. The principal products of India which have been affected by railway development are grain and seeds, coal, cotton, jute, salt, sugar, and timber.

3 EFFECT ON FOREIGN TRADE Exports have increased considerably because the transport to ports is always by railways. Development of exports as also of internal trade has made the people more prosperous. This enables them to buy foreign articles in larger quantities. Imports are widely distributed through the big distributing centres, e.g. Delhi, which are connected with the ports by railways.

¹ *The Imperial Gazetteer of India: The Indian Empire*, Vol. III Chapter VII p. 386

4. EFFECT ON THE STAFF EMPLOYED. A large staff is employed by the railways, which afford occupation to many people. Some of the technical work can be learned only in the railway workshops. Thus the railways offer both a field for employment and a training ground for many kinds of technical work.

5. EFFECT ON FAMINE. Very rarely the monsoon fails in the greater parts of India. It usually happens that there is good harvest in some parts when it is bad in some others. It is at such times that a quick and cheap means of communication like the railways is of great help. Thus India rarely experiences scarcity of foodstuffs which are distributed by railways. The distress in times of famine is due to want of money to buy foodstuffs. This want can be met much more easily than a want of food itself.

6. MORAL EFFECT. Some say that railways are helping to break down caste barriers while others deny it. It is difficult to say to what extent railways are doing this work, since there are various other forces working in the same direction. But the impossibility to keep oneself aloof while travelling by railways must have some effect in securing greater tolerance.¹

In recent years allegations have been made in certain quarters that the construction of the railroad has restricted the free movement of water, especially in Bengal, this leading to heavy floods in times of suddenly excessive rainfall, and spreading malaria by creating water-logged areas where the anopheline mosquitoes can breed. If this be true, it cannot be an argument against railways as such, but only proves the need of having more culverts and bridges.

Water Routes.

Transportation can also be by water. Within the country

¹ In this connection one may recall the humorous Bengali couplet according to which caste has been "killed" by three Sens, viz., Keshub Sen, Wilsen (Wilson of the Great Eastern Hotel, Calcutta), and Istasen (railway station).

only the Indus and the Bengal rivers are navigable by steamers. The country boats however ply in almost all rivers and canals with which the country abounds. For external trade sea routes are most important. India has a very large sea coast. But not much of it is suitable for ports. The important ports are Calcutta, Bombay, Karachi, Rangoon, Madras and Chittagong. There are a few small harbours in Kathiawar. Attempts are being made to develop two new ports, one at Vizagapatam and another in the territory of Cochin. Through the important ports which are internally connected by railways with the distributing centres, India is linked with the outer world both in the East and in the West.

The possibility of development of air service opens out a prospect of quicker means of transport. But the immediate future is likely to see it only as a means of communication rather than as a means of transport on any large scale.

Facilities in means of communication are an important aid in developing transports. Thus arises the commercial and economic importance of the posts, telegraphs, telephones and in the present age wireless.

Irrigation ¹

The Indian rainfall is very unevenly distributed over the country. e.g. the normal rainfall is 460 in. at Cherrapunji in Assam and less than 3 in. in Upper Sind. Its distribution over the seasons is also irregular. e.g. in one year it was nil in Upper Sind. Thus India is liable to have serious deficiency in rainfall in some parts while in others it may be deluged with rain. The object of irrigation works is to make agriculture independent of deficient rainfall.

In irrigation India's progress is worthy of mention. Lands in many parts of India except Assam and some portions of Bengal and Burma require artificial supply of water for proper cultivation. From time immemorial the

¹ *Vide The Triennial Review of Irrigation in India*

system has been followed. But it is in recent years that the more important works of irrigation have been constructed. Irrigation works of all kinds may conveniently be divided into three great types,¹ viz., lift, storage, and river works. These are represented respectively by wells, tanks or reservoirs, and canals. "In lifting, irrigation water is raised from a lower level to that which will command the area to be irrigated, the raising being effected either by manual labour or by animal or mechanical power," e.g. wells. "Storage works are reservoirs, formed by the construction of dams across drainage lines, for the purpose of storing the supply which passes down after every heavy fall of rain for subsequent use during long breaks in the rains or in seasons of drought." "River works consist essentially of canals, drawing their supply from rivers which are in continuous flow during the whole or the greater portion of the year."

Wells are to be found in almost all parts of India, but they are the only means of irrigation in middle parts of India. Canal irrigation is suitable for the flat alluvial tracts. In the Punjab and the United Provinces the biggest canals are to be seen. There are also canals in Orissa and Madras. In the Peninsula proper the common means of irrigation is with tanks or reservoirs. The following table shows the total irrigated area in British India (in millions of acres)—

Total cropped area	Area irrigated				
	By canals	By tanks	By wells	Other sources	Total
250	22	7	12	7	48

¹ *The Imperial Gazetteer of India : The Indian Empire*, Vol. III, Chapter VI.

Taking the area of each harvest separately, the crops irrigated are as follows (in millions of acres)—

Wheat	Other food crops	Other crops
10.5	34	7.5

The proportion of the irrigated to the total cropped area is—

Province	Per cent
Sind	74
The Punjab	51
Madras	29
The United Provinces	28
Bihar and Orissa	22
Burma	8
Bengal	7
The Central Provinces and Berar	5
Bombay	4
Assam	4

Of the total area irrigated by canals more than 19 000 000 acres are done by those which have been constructed and are maintained by the Government. These consist of canals and storage works. The Government works are divided into—(1) Productive works, i.e. those which yield, within ten years, sufficient revenue to cover the interest charges and the working expenses. Most of the major irrigation works fall under this category. (2) Protective works, i.e. those which are meant to protect agriculture from precarious rainfall and thus obviate the necessity of spending large sums of money in times of drought, and the consequent scarcity or famine. The funds spent on this head are from current revenue and from the Famine Insurance Fund. (3) Minor works i.e. those which are not covered by the two previous categories. Dispersed

all over the country these works form, in the aggregate, about a third of the total Government works.

During the last forty years there has been marked growth in irrigation, as can be seen from the following figures—

Year	Total irrigated area (in millions of acres)
1878-79	10.50
1900-01	19.25
1918-21 (average)	26.77
1921-24 (average)	27.48

The increase has been mainly due to that in productive works, which irrigated 4.5 million acres in 1878-79, 10.5 million acres in 1900-01, and 20 million acres in 1923-24.

The total capital outlay on irrigation has increased from R.42 crores in 1900-01 to R.89 crores in 1923-24. Of these the portion spent on unproductive works, yielding less than 1 per cent, is about R.33 crores. Yet the net revenue from irrigation as a whole—that is, after deducting the working expenses—is between 7 and 8 per cent on the total capital outlay.

The charges for water vary in different provinces and according to the crops raised. (1) In Sind the charge is added to the land revenue, nine-tenths of it being the water charge. (2) In Madras and Bombay lands are classified into irrigated and unirrigated, the land revenue of the former including the water charge. (3) In the greater part of India the charge is separate from the land revenue. For example, in the Punjab the rates for water vary from R.7 as.8 to R.12 per acre for sugar cane, from R.4 to R.7 as.8 per acre for rice, from R.3 as.4 to R.5 as.4 per acre for wheat, from R.3 to R.4 as.4 per acre for cotton, and from R.2 to R.3 as.4 per acre for millets and pulses. (4) In Bengal and the Central Provinces the system is to charge the cultivators a small rate for a term of years, whether they take water or not.

The total area irrigated by the Government irrigation works during 1923-24 is as below—

Province	Net area cropped (000)	Area irrigated by Government works (000)	Percentage of area irrigated to total cropped area	Capital cost of Government irrigation and navigation works up to end 1923-24 (in lacs of rupees)	Estimated value of crops raised on areas receiving State irrigation (in lacs of rupees)
Bengal	22 806	93	0.4	422	78
Madras	36 424	6 891	18.9	1 207	3 556
Bombay	39 000	418	1.0	661	538
Sind	4 134	3 427	82.9	479	1 054
The United Provinces	35 021	1 979	5.7	1 577	1 345
The Punjab	26 717	10 207	38.2	2 543	5 509
Burma	13 857	1 730	12.5	363	812
Bihar and Orissa	24 665	954	3.9	627	623
The Central Provinces	17 427	413	2.3	485	281
The N W Frontier Province	2 593	359	13.8	276	226
Rajputana	261	16	5.6	35	5
Baluchistan	286	26	9.0	32	5
Total	223 215	26 536	11.9	8 925	14 030

CHAPTER VIII

ORGANIZATION

THE function of organization is to combine the other factors of production in requisite proportion, and superintend and direct their operation. The work is so highly specialized and involves such an element of risk in the undertaking that it must be separated from labour of the ordinary type. In modern systems of joint stock companies, where the risk is undertaken by the shareholders and the organization by the directors and managers, organization is usually split up into two parts, viz., risk-taking and organization proper.

Organization and Labour.

Organization is also to be distinguished from labour. We do not speak of organization where one man works independently of others, since here there is no need to combine or direct, the man being his own director. Such work is that of the day labourer. It may also be highly specialized, e.g. a physician or a lawyer working independently. But when several persons combine together in order to produce commodities or services, organization comes into being. There are now the workers on the one hand and those who direct, supervise, and control them on the other. The latter constitute organization, and it exists only when there is such combined action. Thus of the two kinds of work, independent and combined, the work done in the former is wholly labour, while that in the latter is partly labour and partly organization.

Division of Labour.

As organization directs the working of the other factors of production, their efficiency partly depends upon it.

In a business unit in modern times the whole of one process is not performed by one labourer, but is divided among many. This is called *Division of Labour* in economics. It is also called combination or co-operation or association of labour. Division of labour is said to exist when several persons work together to bring about the same result. It may be simple or complex. Simple division of labour is that form of co-operation in which not only is the object of all the associated members the same, but all perform the same kind of work, e.g. when a few persons roll a log of wood down a hill to carry it to the bottom. Complex division of labour aims indeed at having a common result, but the work of each associated member or group of members is different, e.g. when in a smithy one person or body of persons works at the furnace, another at heating the iron, a third at the anvil, etc.

Division of work can be found between groups of labourers who are otherwise unrelated, e.g. when a body of workers produces cotton in America, another body transports it to England, a third body manufactures it into piece goods, etc. Or, division of work can be found among members of a body which is under one organization, e.g. when in a factory a body of workers runs the power engine, another feeds the spinning machine with raw cotton, a third feeds the loom with the yarn thus produced, a fourth bleaching or dyeing the piece goods produced. The former is not strictly included under division of labour as understood in economics. The latter is strictly division of labour. In other words, division of labour in economics is said to exist when the whole work of all the associated members of the group is under the same supervision and management.

ADVANTAGES OF DIVISION OF LABOUR The advantages of division of labour are many.¹ They are—

1. Increase in the worker's dexterity. By repeatedly doing the same process the man becomes an expert, and

¹ Adam Smith *The Wealth of Nations* Book I Chapters I II

can produce at a more rapid rate than when he had to manage a larger number of processes.

2. Saving of time. When the man has to manage several processes he has to pass from one process to another, which involves the laying aside of the tools of the process, and taking up those of the next. This takes time. Also it takes some time to get used to rapid work with the new tools. All this waste of time is saved by division of labour.

3. Extension of the use of machinery. As processes become more and more subdivided, the mechanical portions can be separated, and machinery introduced to take them up.

4. Proper classification of the workers. Before the introduction of division of labour a man had to perform all the processes himself. Thus, in order to be an efficient producer, he had to be master of all the processes. As he could not possibly be equally efficient in all the processes the time spent on the one in which he was less efficient was less productive than that spent on another, in which he was more efficient. But now, if he can master only one process he can be efficiently engaged on that, leaving the others to different workers.

5. Shorter apprenticeship. A man naturally takes a shorter period to learn up the work of one process than if he were to learn up all. This reduces the period of training necessary to qualify one as an efficient worker.

6. Promotion of inventions. A man being engaged with only one process can more easily separate the purely mechanical portion of his work, and thus suggest improvements. Moreover, being engrossed with such a small portion of the work, he has better opportunities to observe defects in specialized capital and suggest small improvements in machinery and tools.

DISADVANTAGES OF DIVISION OF LABOUR. Owing to these advantages the output has tremendously increased as a result of the introduction of division of labour and

machinery But as against this we should take note of some disadvantages of division of labour These are said to be—

1 Excessive specialization It is said that as a man now performs only a small portion of the work and as the activity of his employment has a great influence upon his character, the monotonous work with machinery under the system of division of labour cramps the mind and makes it narrow This is true only to a small extent The use of machinery and introduction of division of labour mean less physical exhaustion from the normal work of a labourer, and demand higher mental work So, at the end of the day's work his physical energy is kept up, and his mind is alert Thus there is very great opportunity of working with these for the betterment of his social and intellectual life Without this it would have been impossible to run all those institutions which elevate the life of the workers, e.g. night schools, extension lectures, libraries, museums, reading rooms, as also the various physical and mental amusements in the form of games, cinemas, etc.

2 Congestion in cities It is said that division of labour has led to congestion of workers in cities and their suburbs This also is only partially true, for besides division of labour there are many other factors which have brought about the present conditions of the cities In fact, theoretically, division of labour has little to do with cities Therefore all the evils of such congestion should not be laid on division of labour

3 Delicate balance of the social organism Many factors operate in the smooth running of an industry, all of which are not within the control of a worker Thus if there is a dislocation in one department the workers of another department suffer for no fault of theirs This is true But we must set against this the fact that the workers are all under one organization and, if there is efficient organization, the chances of such dislocation are reduced However, on the whole, there is a good deal of truth in

this disadvantage, as can be seen from frequent dislocations in industries. But it should be remembered that there are many other causes which work towards this end.

4. Absence of a sense of the artist. From the nature of division of labour it follows that no man completes any work, and the work of each is dependent upon others. This does not allow scope for the operation of that sense of the master artist who, on completing a work, feels the pride of having produced a thing, and who has the consequent urge for doing a thing thoroughly and well. Thus the strong incentive to do the highest kind of work is reduced under division of labour.

On the whole, however, it is found that the advantages are overwhelmingly greater than the disadvantages, and that is the reason why division of labour, especially after the invention of machinery, is rapidly increasing in volume, and spreading in all kinds of human industry.

Division of labour is limited by the extent of the market. It is apparent that if a person or a body of persons is employed only in a portion of a process or sub-process in an industry, and if each is engaged on that for the full time, the output must be very great ; in other words, production must be on a large scale. Also each person or body of persons, being engaged in doing a small portion of the work, becomes very efficient by repeated practice. This also increases output. But the object of production is sale. Thus the amount that can be sold at a profit is limited by the conditions of the market. If the market is very big or strong it can absorb a large output without appreciable fall in the price. But if the market is small or weak, a relatively small increase in the output may bring about a great fall in the price. This may make it unprofitable to produce a large output. A reduction in the output will not permit division of labour to be carried very far. Thus the extent of the market determines the scale of production, and the scale of production determines the extent of division of labour.

The advantages of localization of industries are¹—

1. A localized industry creates a kind of hereditary skill in the workers, as their children grow in an atmosphere where the specialized skill is a sort of common acquisition for all.

2. There is rapid assimilation of an improvement made by one man since, as it is situated in one place, the value of an improvement is quickly realized.

3. Many subsidiary trades grow up in the place. The by-products, which would not be utilized when small and at various places, can be utilized now that the quantity is large. Industries grow there to supply the specialized capital required for the main industry. Organization of traffic to and from that place becomes profitable. And all the advantages of production on a large scale² and of the use of machinery can be secured.

4. The localized industry offers a big market for the expert skill required in that industry. Thus it offers both a training ground and a field for employment for skilled work of a highly specialized type.

There are some disadvantages of localization of industries. They are²—

1. The work done being chiefly of one kind, the industry cannot give employment to all the members of a worker's family. Those who, by reason of sex, age, or want of aptitude for the particular industry, are unfitted to become skilled workers of that one kind have little chance of earning their livelihood in that locality. This works hard on the labour population of those countries, e.g. India, where there is an antipathy or prejudice against migration, or where the system of family in which all the members, including distant relatives, live together is a strong social institution.

2. Localization leads to congestion and overcrowding.

¹ A. Marshall, *Principles of Economics*, Vol. I, Book III, Chapter x.

² *Vide* below, pp. 106–108.

This raises the ground rents and prices to a high level, and thus adversely affects the consumers of the locality

3 As only one type of industry furnishes employment to the locality, a depression in that trade brings about great hardship to the people, as they cannot easily move to another industry during the period of depression

The rise of subsidiary industries reduces, to some extent, the evils arising out of 1 and 3 above, but it intensifies those arising out of 2

The reasons why an industry, once localized, tends to remain as such, are the advantages enumerated above, which far outweigh the disadvantages

When territorial division of labour is carried beyond one country, that is, when different industries are localized in different countries, foreign or international trade is the result,¹ for it means that each country produces a larger quantity of the specialized article and less of others than it requires and there must be international trade before there is proper distribution of the specialized products of the various countries

The Law of Productivity.

We have seen that the productive process is controlled by the organizer. We have also seen that in production there is a margin in the use of each of the factors of production.² This means that (there is effective competition among the units of the same factor, and their productivity determines the number and the proportion in which they are combined. Similarly, there is effective competition among the various factors themselves.) In modern system of production the functions of one factor may be performed by another, and the question whether the one or the other will be employed depends upon the suitability or productivity of each as compared with its cost. For example, the raising of stones to a height for, say, building purposes

¹ *Vide* below Part III, Chapter XI

² *Vide ante*, Part I Chapter III

may be done either by engaging labour or by employing a crane. Here there is effective competition between labour and capital, and the efficiency of each as compared with its cost determines which is to be employed. In the same way there may be competition between land and capital. For example, when the accommodation in a factory is to be extended, it can be done either by acquiring more land or by adding one story to the old building. Thus we see that not only is there effective competition among the various units of a factor of production, but it exists even among the various factors themselves.

{Modern production means a combination of the factors. This is carried out by organization. Thus the productive efficiency of the other factors depends upon two things, viz.—(1) the individual efficiency of each factor, and (2) the efficiency of organization.} A labourer may be very efficient by himself, but if he is supplied with bad capital or associated with inefficient labourers, his work suffers. Or, if good capital is handled by bad workers or run along with bad capital, its efficiency suffers. Hence there is the great importance of organization in all group production in which the former determines, selects, and assigns the work of the other factors of production.

In this combination the great law of production is found to operate. This law is really one in the main principle of its working, but according to the aspects of its operations it is sometimes split up into four, viz.—(1) the law of substitution, (2) the law of diminishing return, (3) the law of increasing return, and (4) the law of constant return.

THE LAW OF SUBSTITUTION. {The law of substitution follows from the competition among the factors of production as also the units of each factor} ([The organizer is continually trying to find out a method by which he can substitute a less costly factor or unit for a more costly one, always, of course, with reference to its productivity.]) Thus there is ceaseless activity going on in a productive unit,

by which the output is sought to be increased (at the old cost, or the cost reduced with the old output or the quality improved with the old output at the old cost). In this attempt one grade of labour is continuously invading the domain of another, one type of machinery supplanting another, one land substituted by another. At the same time machinery is taking up the place of land or labour, and vice versa.

THE LAW OF DIMINISHING RETURN The law of diminishing return may be stated thus¹—If with a fixed amount of one industrial agent, A, there be employed varying amounts of other industrial agents B, C, D, etc., and if, while the quantity of these latter increases the products of the combination increase in a smaller proportion, the law of diminishing return is said to be in operation. The underlying idea is that, assuming that the conditions of production are static for the time being there is an ideal proportion in which the industrial agents—that is, the factors and their units—can be combined in order to yield the maximum possible output at the old cost, or the same output at the least possible cost, or the best possible quality of the same quantity at the old cost. When a new combination of the industrial agents makes it go further away from the ideal than the previous one, the law of diminishing return comes into operation. It should be clearly understood that the combination is changed not only by a change in the proportion of the factors of production, but also by that of their units. So that for purposes of this law industrial agents include the factors as also each variety in their units. Thus there will be a change if labour of a higher grade is employed in the place of that of a lower grade or more specialized capital is used in the place of less specialized one, or a superior land substituted for an inferior land.

(Hence we should remember that although our classification of the factors is limited in number, there is no limit to

¹ A. W. Flux *Principles of Economics*

the number and variety of the industrial agents.)) Keeping this in mind we may, for the sake of convenience, assume in our illustration that there are four industrial agents, say, land, labour, capital, and organization, that is, in order to make our illustration simple, we assume that there is no difference in the varieties of land, labour, capital, and organization. We may imagine now that the ideal proportion is—1 unit of land, 20 units of labour, 10 units of capital, and 1 unit of organization. This means that the units of the industrial agents are combined in such a way that each is worked at its maximum capacity, and that there is consequently no wastage of any portion of the combined units. If that is so, it is evident that if we alter the combination into 1 land, 30 labour, 15 capital, and 1 organization, the output may be somewhat greater than before, but the cost per unit of output will increase. For 1 unit of land and 1 unit of organization cannot, by our hypothesis, give full employment to more than 20 units of labour and 10 units of capital. But as these latter have been increased without a corresponding and proportionate increase in the former, a portion of the amount of labour and capital remains unutilized, or what is more probable, a portion of each unit of 30 labour and 15 capital remains idle. So that, from the strict point of view of production, we may say that there has not been an increase in the industrial agents to the full extent of the increase in their number.

From this it necessarily follows that the quantity of the factors increases more than the increase in the output. In other words, the cost of production increases at a greater rate than the amount of the output. This means that the cost per unit of production, that is, the total cost divided by the number of units of the output, becomes greater than before. This is called the law of diminishing return, and this law must sooner or later operate whenever we keep one industrial agent constant and go on increasing the others, for a time must come when the quantity of the fixed agent

will be insufficient to work the increasing agents at their maximum. From that point the law of diminishing return starts to operate. That is the law begins to operate as soon as the other agents increase and come up to the ideal proportion in reference to the fixed agent, and when the proportion in which the various industrial agents are combined moves away from the ideal proportion, the law operates more and more intensely with every movement away from the ideal. It does not follow that the law keeps on operating continuously for it is not known to man what the ideal proportion is or what variation in the proportion moves it away from it. Thus in the processes of substitution it may be that one combination is moving towards the ideal, and the next one away from it. In the latter case, whenever it happens to occur, there shall be the operation of the law of diminishing return.

THE LAW OF INCREASING RETURN On the other hand, when the proportion is moving towards the ideal the opposite effect can be seen that is, the output increases at a higher rate than the quantity of the industrial agents. This is so because as the alteration of the proportion moves it towards the ideal the unutilized portions of the industrial agents become less. Therefore there is an increase in the output not only as a result of the increase in the quantity of some of the industrial agents, but also as a result a portion of the fixed industrial agent, which remained unutilized before owing to the insufficiency of the others, being now better utilized. Thus the increase in the output is greater than the increase in the industrial agents. This is called the law of increasing return. To take the former illustration the ideal proportion is 1 land, 20 labour, 10 capital, and 1 organization. If the present proportion of say, 1 land, 15 labour, 5 capital and 1 organization be altered into 1 land, 18 labour, 7 capital, and 1 organization the new combination is moved nearer to the ideal than the former combination. Here the output increases not only as a result of the increase in labour and capital. According

to our hypothesis of the ideal proportion, 1 land and 1 organization can be fully worked by 20 labour and 10 capital. When there were 15 labour and 5 capital a portion of the former was unutilized. When there are 18 labour and 7 capital, the unutilized portion of land and organization becomes less; in other words, the output increases not only because of an increase in labour and capital, but also because the land and organization become more productive than before. Therefore, the output increases at a greater rate than the increase in the industrial agents. This means that the cost per unit of output diminishes.

THE LAW OF CONSTANT RETURN. When an increase in the industrial agents brings about a proportionate increase in the output it is called the law of constant return. This may operate when the ideal proportion is reached and kept up by increasing all the industrial agents in the same proportion, or when a proportionate increase in all the industrial agents is maintained at any other level, or when alterations in the proportion in which the industrial agents are combined are such that an increase in the output as a result of some industrial agents is neutralized by a decrease in the output as a result of some other industrial agents. Thus if the amount of the industrial agents is changed from 1 land, 20 labour, 10 capital, and 1 organization to 2 land, 40 labour, 20 capital, and 2 organization, the output becomes double of what it was before.

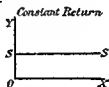
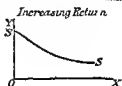
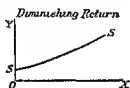
The three laws may be diagrammatically represented as shown on next page.

We measure the output along OX and the industrial agents along OY .

It should be noted here that if we assume static conditions, that is, if we suppose that the curve SS' remains as it is in each of the above figures, then if the law of diminishing return operates for an increase in the industrial agents, the law of increasing return must operate for a decrease.

That is, when production in any industry is under the operation of the law of diminishing return a reduction in the scale of production brings about the operation of the law of increasing return. Similarly, in the case of increasing return, a reduction will introduce the operation of the law of diminishing return. In constant return the law remains the same whatever the output may be.

Sometimes it is said that the law of diminishing return operates in agriculture and that of increasing return in



manufacture. But this is wrong. If, in agriculture, it were possible to increase all the industrial agents with an increase in the scale of output, the law of diminishing return will not come into operation. On the other hand, if in manufacture one essential agent cannot be increased with a larger scale of production, the law of diminishing return must operate. For example, if as a result of increased demand and consequent expansion of the agricultural industry, land, labour, capital, and organization could be increased at the will of the entrepreneur, the law of diminishing return will never operate. In manufacture, if such an increase does not allow an increase in any of the agents while others are being increased, the ideal proportion is likely to be reached and exceeded, and therefore, the law of diminishing return must come into operation.

But in practice it is actually found that in an old country agriculture is under the operation of the law of diminishing

return, whereas manufacture is usually under the operation of the law of increasing return. The reason is that in agriculture man is more dependent upon Nature, the gifts of which, land, etc., cannot be substantially increased in quantity by the efforts of man. Thus, in an old country with an increase in population, and therefore an increase in the output, the other agents, viz., labour, capital, and organization, can be almost indefinitely increased by human efforts, for these can be produced by the efforts of man, and therefore have a supply price in the sense that its increase will increase their total supply. But the supply of land is strictly limited and, in an old country, is already in use. Therefore, an increase in output has to be managed with the fixed quantity of land worked by an ever increasing quantity of the other industrial agents. Thus the condition in which the law of diminishing return operates is created, viz., one agent being fixed the others are continually increased. Moreover, man is more dependent on land in agriculture than in manufacture. Therefore, this one agent is not merely fixed but has the greatest influence on production. This is the reason why, in agriculture, especially in an old country where land is strictly limited, the law of diminishing return is found to operate.

On the other hand, in manufacture, man is not so dependent upon land. It supplies raw materials and the place to work them up. The skill of man has devised various means, e.g. machinery, etc., by which the output is increased. Thus the quantity of land required is smaller than in agriculture, and its importance as an industrial agent is less as well. Moreover, there are various ways of economizing the use of land. For example, one machinery of double the capacity of another does not require double the original land to work it. If there is an expansion of the industry, land need not be doubled. An additional story of the building may give scope for expansion. Thus in manufacture the expansion of an industry is more

dependent upon the other agents than land, the former of which can be increased almost to an unlimited extent. Hence the law of increasing return tends to operate in manufacture.

From the above, it will be clear that the law of diminishing return operates where the obstacles of Nature are so great that a proportionate increase in the gifts of Nature is not possible, whereas the law of increasing return operates where the skill of man succeeds in economizing in the use of the essential gifts of Nature, and in increasing the other agents or the efficiency of all the industrial agents. Thus, there is a continuous struggle going on in the productive effort of man. As the output or scale of production increases, Nature offers obstacles tending to bring about the operation of the law of diminishing return, while man is after the conquest of Nature by discovering its secrets and coaxing it to yield more and more to his efforts, thus tending to bring about the operation of the law of increasing return.

As all the main categories of the industrial agents viz., land, labour, capital, and organization, are more or less essential for production, there is a sort of tug of war going on between the two laws, and in each industry we can see land forcing in one law and human effort the other. Where as in agriculture, land is a predominant factor, the intensity of the operation of the law of diminishing return tends to be greater than that of the law of increasing return, and where, as in manufacture, human effort is predominant, the reverse tends to be the case. When diminishing return operates more intensely than increasing return the net result is the operation of the law of diminishing return, where increasing return operates more intensely than diminishing return, the net result is the operation of the law of increasing return, and where the two forces exactly balance the net result is the operation of the law of constant return. In this struggle, society being dynamic, the processes of production keep on constantly changing.

The organizer is continuously trying to alter the proportions and the items of the industrial agents to counteract the effects of the obstacles offered by Nature ; in other words, the struggle goes on through the operation of the law of substitution. Thus all these four laws, viz., substitution, diminishing return, increasing return, and constant return, operate in production through the process of mutual action and reaction, and can therefore be regarded as the aspects of the one law of productivity. From this point of view we should not speak of the four laws but the one great law of production.

It is worthy of note that the law of productivity refers to the quantity, and not to the price. For example, the law of diminishing return may be operating in regard to the output, yet there may be a fall in the cost per unit of the output as a result of the fall in the prices of the industrial agents ; or, the same thing may happen with a rise in the price of the finished commodity, where the prices of the industrial agents remain the same. Here, although the output increases at a smaller rate than the agents, yet this is made up by a fall in the prices of the latter or a rise in the price of the commodity produced.

In agriculture the usual means by which human effort can retard the intensive operation of the law of diminishing return may be classified thus—

1. Improvements in the methods of cultivation. Such improvements always mean more efficient human effort, and, therefore, a proportionately greater output with the same or less sacrifice than before. These may be in the form of rotation of crops, use of machinery, scientific processes, etc.

2. Social improvements. In a previous chapter¹ we have seen that one of the factors that determine the value of land is its situation, that is, the distance from and the means of communication with the market to which the product of the land is sent. If there are improvements

¹ *Vide ante*, Part II, Chapter IV.

in the means of communication with that market, the cost of marketing having been reduced the cost per unit of output of a land in its market diminishes, or, which is the same thing, the amount of output at the old cost increases. Again, as a result of social development a market may develop nearer the land, and the effect will be the same.

3 Introduction of new forms of produce A land may be more suitable for the growth of one crop than another, or equally suitable for two crops of different values. In the former case if the more suitable crop is grown and in the latter if the more valuable crop is grown the productive efficiency increases, assuming of course that the cost of production of both the crops is the same. Thus the hill districts of Assam and Bengal have become more productive by growing tea, which is more suitable to them than anything else. Some Bengal lands have similarly increased in efficiency by substituting the more valuable crop of jute for the less valuable one of rice, as in Khandesh, Berar, etc., cotton has been substituted for wheat.

4 Finally, the exact course of the operation of the laws cannot be known owing to the fitful course of development of the full powers of the soil. The full powers of the soil may not be developed at a particular stage or with a particular system of production. When the stage is outgrown or the system changed, the productive efficiency of land may increase very much, so that although the land was under the operation of the law of diminishing return, now its intensity may diminish or it may even give place to the law of increasing return. For example, when a marshy land was being cultivated with a gradually increasing quantity of the other industrial agents, it might be under the operation of the law of diminishing return. But if they are increased very much and with their help the land is drained and otherwise improved, it may now yield to the operation of the law of increasing return.

The Scale of Production.

Production may be on a large or on a small scale. There are some advantages of each, and that is why both the scales of production have persisted, even in our times. Every complete system of production in the modern age can roughly be divided into three parts. There is a process or a series of processes which has to be completed before the actual productive process of a group begins. There is next organized group production. And finally there is a process by which the produced commodity reaches the hands of the consumers. If we take the illustration of a cotton factory, we find that before the process of producing the cotton piece goods begins there are several processes by which the materials, etc., necessary for the group production are secured. For example, the raw cotton, machinery, coal, or other source of power, etc., must be brought together from outside. Next, the actual processes of spinning, weaving, bleaching or dyeing, and pressing and packing are done. Then the finished piece goods pass out of the factory. But before they reach the consumers there must be transportation, advertisement, sale, etc. Thus the whole work consists of three parts, viz.—(1) work before the factory, (2) work in the factory, and (3) work after the factory.

The advantages of a particular scale of production appertain to these three stages. Those which are derived from (1) and (3) above are called external economies, e.g. cheap purchase of raw materials, advertising, discovery of the best market for the finished goods, etc. Those which are derived from (2) above are called internal economies, e.g. bringing together the best agents of production, combining them in the most efficient proportions, proper classification of work, effective supervision and control, etc.

Large scale production is usually suitable for manufacture. Here specialized machinery can be used to a large extent,

and as machinery produces exactly the same thing and produces it in very large quantity manufactures in general are found to be on a large scale. This also means that such production is suitable for standardized articles that is those articles which are consumed in large quantities and upon which the individual peculiarities of consumers do not operate. Such articles can be easily produced by machinery as it accurately repeats the same processes and they have a wide market for sale.

On the other hand those articles which require attention of the individual units during production or which must satisfy the special taste of consumers must be produced on a small scale because necessary attention to individual units or individual consumers does not permit efficient handling of the processes on a large scale. On the whole small scale production is suitable for some kinds of agriculture. Thus in the vineyard such production is essential. But in some other industries also it has advantages. For example in dairy farming close individual attention is necessary, and there the scale of production is relatively small. In tailoring where the individual needs and tastes of the consumers have to be satisfied production must be on a small scale. In artistic products where the special tastes or whims of the consumers have to be studied, small scale production is suitable.

ADVANTAGES OF LARGE SCALE PRODUCTION The advantages of production on a large scale can thus be summarized—¹

1 'There can be a better classification of labour according to its capacity'. The scale of production being very large, it is profitable to carry division of labour or specialization of industries to a great extent, and therefore a worker can be given full employment on a small portion of a process *for which he is particularly suitable*.

2 "Applied machinery can be so adjusted as to give full employment to the motive power. Like labour capital

¹ J S Nicholson *Principles of Economics* Book I Chapters IV v

also can be specialized, and machinery used for a small portion of a process and yet be given full employment.

3. "Improvements can be more readily adopted," first because large scale production wields large capital, and, therefore, can afford to introduce costly improvements, which it is impossible for small scale production with small capital to introduce, and secondly, because machinery already specialized is more suitable for further specialization through small inventions suggested by those who handle it. Thus small inventions are encouraged.

4. "Expert skill can be called in to a greater extent." The work which must be done by one man in small scale production is subdivided into many, for each of which there can be an expert in large scale production. So, instead of having one man for the work, who is more efficient in some parts of it than in others, one expert may be engaged for each part for which he is specially suitable. Moreover, large scale production can afford to pay highly, and engage high-class experts whose services are ultimately economical, but the limited capital and the limited extent to which division of labour can be carried do not permit the same thing in small scale production.

5. "Better agents can be employed in the selection of materials and of processes." For each a specialized highly paid man can be engaged, whereas in small scale production many of these must be done by one man, who cannot be equally efficient in all.

6. "The control of the departments and sub-departments can be put in the hands of competent managers, while the energies of the head of the firm are devoted to general superintendence and organization." In a small industry the head cannot afford to keep specialized men for each department and sub-department. But this can be done in large industries. Thus the head is left free to think of the general problems of improvement and organization, with a view to securing both internal and external economies.

labour, but is to be distinguished from ordinary labour in that whereas the latter is guided and controlled in its work, it is the guide and the controller. If enterprise or the undertaking of the risk of a business is not taken as a separate factor of production, it forms part of organization. In former times this used to be particularly the case. An organizer would hire the other factors and carry on production. Sometimes a few organizers would form into private partnership and carry on business. Often it happens that all the partners are not capable of bearing both the burdens of organization, viz., the actual work of control and direction, and the undertaking of risk. In such cases the two may be separated. All the partners undertake the risk of the business, while one or a few carry on the work. Those who do the latter work and also undertake the risk are called *active partners*, while those who undertake the risk only are called *sleeping partners*.

JOINT STOCK ENTERPRISE. In modern joint stock companies, however, the two functions involved in organization are usually separated. The shareholders furnish a portion of the capital and undertake the whole of the risk, while the directors and managers carry on the work of organization proper. This form of production has come into extensive use in modern times, especially with the introduction of the principle of limited liability. This means that a shareholder's liability in case of failure of the company is limited to the amount of the share which he has bought. If, for example, a man has purchased, say, 10 shares of R.100 each, his liability for the debts of the company ends on payment of R.1,000. The whole of the R.100 for each share may not have been paid from the beginning. If so, the man will remain liable for the unpaid amount of each share.

JOINT STOCK CAPITAL. The capital of a joint stock company is usually raised thus, the profit varying according to the degree of risk undertaken. The company fixes, on registration, the maximum amount of capital which it

wants to raise from the shareholders. This is called the *authorized capital* of the company, that is, the maximum capital which it is authorized to raise by selling shares. But the whole amount of the authorized capital is not usually put immediately in the market as shares. According to the needs of the business and taking the market conditions into account, a certain amount is offered and taken up by the public, who become thus the shareholders. The amount thus taken up is called the *subscribed capital*.

For the convenience of the shareholders, and because the company may not be able to employ all the subscribed capital from the start, the whole of its amount is not required to be paid at once. It is divided into convenient parts, and the shareholders are required to pay the parts as instalments when the company calls for their payment. The portion of the subscribed capital which has been called up and paid is called *paid up capital*. Thus the authorized capital may be 5 lacs of rupees, of which 2 lacs may be subscribed, each share being of R 100. If instalments are paid at the rate of R 10 per share, and if five instalments have been called up and paid, then R 50 per share of 1 lac in all will be the paid-up capital.

DEBENTURES Another way in which the capital of a company may be increased is by debentures. A debenture holder does not participate in the risk of the business except when the company fails with insufficient assets to repay him. He gets his fixed income whether the company makes a big or small profit, or whether it suffers a loss. Therefore, his income is primarily the interest on the capital which he lends to the company. The shareholder shares in the profit or loss of the company. Thus he is undertaking greater risk in the business, and therefore gets normally a higher rate than the debenture-holder.

KINDS OF SHARES Among the shareholders, again, there are divisions according to the risk undertaken. The shares can be classified thus in the order of increasing risk—

1. Preference share subdivided into
 - (a) cumulative.
 - (b) non-cumulative.

2. Ordinary shares.

3. Deferred shares.

All the shares get an income only when the company makes a profit.

The preference shares get a fixed rate on the capital amount. If the company earns a big profit, they get the fixed rate and nothing more. If the company's profit is small they get preference over the other shares. But if in one year the total profit of the company is not sufficient to pay even the preference shares, these have to go without their fixed rate. If out of the next year's profit the deficit of previous years is allowed to be made up, the preference shares are called *cumulative* ; if not, they are *non-cumulative*. After the preference shares have been fully paid according to the fixed rate, the rest of the profit goes first to ordinary shares, which get the rate fixed for them. Finally, the surplus profit is distributed among the deferred shares.

As the preference shares get their share of the profit first, the risk which falls on them is necessarily less than that on the ordinary shares. Similarly, the risk of the latter is less than that of the deferred shares. Thus, of the total capital raised, a debenture has the least risk, and the next in order are the cumulative preference share, the non-cumulative share, the ordinary share, and the deferred share. Therefore, the rate fixed for each kind of capital increases in the same order, while the last gets only the remainder after the previous ones have all been paid.

The total number of joint stock companies in India is about 5,200, with a paid-up capital of more than R.230 crores, the total authorized capital being more than R.754 crores.

ADVANTAGES OF A JOINT STOCK COMPANY. The joint

stock company which is based on the principle of limited liability has great advantages (1) With unlimited liability a big capitalist involved in many businesses found that in case one business failed he was liable for the whole debt of that company if the other partners had little private wealth of their own. But under limited liability he knows exactly the amount for which he is liable, from the amount of shares which he holds. Thus he is encouraged to invest his capital in many businesses at the same time. In this way the total active capital of the country is increased. So the principle of limited liability is a great boon to the shareholders or the capitalists. But the capitalists may cheat the other creditors of the company by withdrawing their capital just before it fails, and leaving no assets for the creditors who have first preference to payment. This is prevented by regular publication of the company's accounts duly passed by auditors recognized by the Government.

2 The principle of limited liability and the system of issuing the shares in small convenient sums have enabled small incomes to come into business which otherwise could not have been utilized for purposes of production. This also increases the total effective capital of the country.

3 The publicity required by law naturally inspires confidence in the creditors and the shareholders of the company. From the published accounts they come to know of the financial position of the company from time to time, as also the profit or loss which they are likely to have. This also conduces towards the development of stable business, and therefore increased production.

4 The system of joint stock enterprise has enabled the country to undertake big projects of production, which could not have been undertaken by private enterprise, e.g. the railways. As the capital is divided into small shares, all persons can contribute towards the capital, and a huge capital can be raised to run an industry which cannot be worked without such an amount of capital.

There is, however, one serious disadvantage of the joint stock company. The organization is separated from the risk, the directors and the managers taking up the former, and the shareholders the latter. Thus, the work of management and control being separated from the profit, the organizers have not the same direct stimulus to good work as the increased profit would not come to them. This divorce of responsibility from the profit is a serious defect. But its effect is mitigated by two factors—

1. The custom has arisen by which the managing directors, besides their salaries, get a share of the profit, so that the greater the profit, the greater will also be the amount of their share of it.

2. The growth of business morality in recent years has been a great check to fraud on the shareholders. The modern complicated mechanism of large scale production offers many opportunities of defrauding the shareholders. As compared with these the actual cases of fraud are very few. The reason is that a body of managing directors, if they want to be in command of capital subscribed by others, cannot afford to run the risk of being proved dishonest, and thus of losing their business and reputation.

Transport.

A modern business does not produce only for the locality in which it is situated. And as the process of production is not complete till the finished goods have reached the hands of the consumers, transportation plays an important part in determining the extent of a business unit. If the means of communication are bad there cannot be production on a large scale, for the market to which the output can be sent is naturally limited by the efficiency of the means of transportation. Thus efficient production requires division of labour to be pushed very far, and thus requires production on a large scale. This depends upon the extent of the market, and the latter depends upon the means of transportation.

The effect of this on a vast country like India in which the means of transportation are not very well developed, can be seen in the fact that most of the big businesses are situated either in large towns where an organized market already exists, or on railway or river routes, which offer good means of transportation to distant markets. But with the development of roads, railways, and river navigation, the system of production is changing in India. The villages which are on such routes are becoming less and less self-sufficient, and carry on more exchange transactions with towns where organized businesses produce on less cost per unit than small businesses in the villages. In this way the village economic system is becoming complementary to the town system, and greater economic solidarity of the whole country is being attained. This effect can be seen specially in villages which are nearer to towns or which have better means of communication with towns than villages which are far away.

THE EFFECT OF TRANSPORT ON AGRICULTURE The effect of this new impact can be seen in agriculture as well. Improved methods and means of cultivation are gradually extending to the field of agriculture. The rate of progress is rather slow, because the means of Indian cultivators to initiate improvements are limited and because owing to their ignorance knowledge of improved methods is difficult to spread. But the villages have already ceased to produce for the locality only. The means of communication help the town merchants to buy in the villages and transport the products to the internal distributing centres for sale all over the country or to the ports for export. Thus the market for agricultural products has extended, and better prices come to the cultivators. This can be seen from a comparison of the prices of an article just after the harvest at which the cultivators sell. With a rise in world prices these prices have almost proportionately increased.

Another feature of the improved means of communication

has been the growing of crops which are utilized for purposes of manufacture in towns. There has been a very great increase in the cultivation of jute in Eastern and of cotton in Western India, which are meant to be moved to towns for manufacture or export. That the cultivators respond quickly to change in prices can be seen in the changes in the area cultivated as a result of the changes in the prices. The relative prices of jute and rice in Bengal and of cotton and wheat in Western India determine the relative areas under cultivation for those crops. Thus effective competition is opening up new markets, and leading to a complete re-organization in the village economy, which is largely due to the development in the means of transportation.

Co-operation.

Another form of productive organization which has great future possibilities is co-operative production. The object is to eliminate profit by distributing it among the workers themselves, who are also owners of the business, or to the members by selling the output at the cost of production. That is, either as producers or consumers the workers get the profit of the undertaking. This form of production has been of recent growth. In the last century it was started without success. The reason was found in the unwillingness of the workers as owners to pay sufficiently high salaries to organizers, as they failed to appreciate the value of the brain work done by them. Thus they were offered too low salaries to keep really efficient men. Since the beginning of the present century, especially after the success of co-operative societies for purposes of consumption, attention has been drawn to productive co-operation. Now the Co-operative Wholesale Society of the United Kingdom has factories in various parts of the world, producing food, furniture, clothing, flour, soap, etc. It has iron works, tea plantations, fruit farms, dairy farms. It has branches in the United States, Canada, Australia, France, Spain, Sweden, and Denmark. The primary purpose of the

Society, is to sell the products to its members, which are workers' associations

In India this type of co-operation has not developed. There are only a few organizations, mostly of a local type, a well known one being the Co operative Weavers' Union of Bankura, in Bengal

PART III EXCHANGE

CHAPTER IX

THEORIES OF VALUE

IN former times, before the use of money had been introduced in society, exchange of goods was effected directly, and the value of one article was thus ascertained by the other articles which could be obtained in exchange. This direct exchange of one for other articles is called *barter*. Barter came into use only when societies developed to such an extent that each individual member, instead of attempting to produce all articles that he wanted for himself, confined his effort to the production of one or a few articles, by exchanging which he obtained other articles which he wanted to consume. Thus in a society, one man, A, would produce wheat, and another, B, cloth. A's want for cloth and B's want for wheat could be satisfied only by exchanging wheat and cloth.

Difficulties of Barter.

The great difficulty of exchange by barter was the disadvantage of the double coincidence. Not only had a man to find a producer who was making what he wanted, but the latter must be wanting what the former produced. Thus A, the producer of wheat, had to find B, the producer of cloth, with such mutual wants that A wanted cloth and B wheat. Otherwise there could not be any exchange by barter. This coincidence was necessary both for the items of each other's products and for their quantity. Further difficulties would arise when one produced an article which could not be subdivided in exchange. Thus if A was a cattle breeder and B a wheat producer, and if A's

requirements for wheat were small, he would be unable to get wheat as he could not give up half or quarter of a head of cattle

Sale and Purchase.

In order to obviate this double coincidence necessary in exchange by barter, one exchange transaction has been split up into two, called sale and purchase. A now sells his product for money and with it buys what he wants for himself. Thus the common medium of exchange has removed the difficulties of barter.

Here it is important to note a special feature of all exchange transactions whether carried on by barter or money. In an act of voluntary exchange there cannot be any loss to either of the parties and, in the majority of cases, there is a gain to both the parties. In our previous illustration, if the exchange transaction between A and B is voluntary, that is, uninfluenced by any external pressure and carried on for the gain of each party, A and B consent to exchange a certain quantity of wheat, say, 1 maund, for a certain quantity of cloth, say, 1 pair of dhoties. This must mean that to A the utility of 1 pair of dhoties is at least equal to, if not greater than, the utility of a maund of wheat which he agrees to give up. Similarly, to B the utility of 1 maund of wheat must be at least equal to, if not greater than, the utility of one pair of dhoties which he agrees to give up. In most cases, that is, in all cases except when one party is a very bad bargainer, both the parties get a surplus utility by exchange.

There is a common belief among ordinary people that if in an act of exchange one party is a gainer the other must be a loser. This is wrong. Both parties may be and often are gainers. This is made possible for the following reason. In the above illustration A has a large stock of wheat and B that of cloth. If each were to consume only his own product, each will find that the quantity which he has for consumption is not only sufficient for

satisfying all his urgent wants in regard to his article but all minor wants as well; probably, if the output is large enough, a portion of his product remains without yielding any satisfaction. As (the utility derived from the unit of an article which satisfies an urgent want must be greater than that derived from the unit which satisfies a less urgent want,) or which does not satisfy any want at all, the marginal utility of wheat to A and of cloth to B must be very small, or nothing at all. At the same time the most urgent want of A for cloth and of B for wheat remains unsatisfied. Thus the utility of the first units of cloth to A and of those of wheat to B is very great. In this case, when A gives up some wheat and receives some cloth, he parts with very much less utility in the form of wheat than what he gets in the form of cloth. Similarly B gets very much greater utility in the form of wheat than he gives up in the form of cloth. Thus in every act of voluntary exchange there is usually a surplus utility to both the parties.

When barter is supplanted by money exchange the same result is continued. A sells his wheat at a certain price because in doing so he parts with less utility than what he can purchase with the money, for not having anything else the utility from those purchased articles will be very great.

In modern times we see sometimes that an article is given up and, without the passing of money, another article is obtained, as when, say, A gives B 1 table for 4 chairs. This is not necessarily barter. What A and B actually do is to ascertain the prices of 1 table and 4 chairs and find that the two are the same. Thus, although commodities have exchanged hands without any money, yet their relative value has really been calculated in terms of money and not in terms of utility.) For the sake of convenience only the use of money has been eliminated. Strictly speaking, therefore, such acts of exchange come under money exchange rather than barter. In modern

days, where money economy is in use it is rare that there is any exchange by barter, even when articles directly change hands for one another

Market.

Value, as we already know, is the measure of one thing in terms of some other. There are certain processes by which the exact amounts of the exchanged articles are fixed in the market. But before we proceed to study the forces which determine the value of an article we should understand what a market is.

In ordinary life when we speak of a market we usually mean a place where the buyers and sellers meet together and carry on exchange transactions. But in economics a market is not necessarily a place. A market may be defined as the field in which the buyers and the sellers are in such intimate contact with one another that the forces operating in determining the value of commodities are known to all, so that the price of a thing is the same all over the field, subject to the cost of transporting it from one part to another. Such a market can refer to space or time. A market may be the place where the buyers and sellers habitually meet for purchase and sale, or it may be a wide region in which they are closely associated together and therefore know the extent of demand and supply. Or a market may refer to time. We shall deal with each separately.

Place Markets.

The market in regard to space may be confined to a locality, or it may extend to the whole world. The extent of the market depends upon the commodity. The causes which extend the market for a particular commodity are—

1. That the commodity should be in general demand. If it is an article of universal consumption it can have a wide market.

2. That it can be classified and graded, so that the exact quality of the commodity can be known and understood by seeing samples. If it is so, then the buyer need not actually come to the place where the stock is kept, but can order it simply by examining the samples.

3. That it can stand transportation over a long distance. If the commodity is perishable, say fresh milk, it cannot be transported to a distant place, and its market is necessarily limited. Again, if the bulk of the commodity is very great as compared with its value, e.g. straw, it cannot stand long transportation since the cost of transporting it is likely to be too high. Or, if its weight is very great as compared with its value, e.g. ordinary brick, it cannot be sent over long distances as the cost of transportation is likely to be too much.

Thus we find that the high class securities, the precious metals, and some other articles, e.g. wheat, etc., have an almost world market because they satisfy all the conditions mentioned above.

Time Markets.

From the point of view of time, markets can be divided roughly into four.¹ (1) The daily market, which consists primarily of perishable goods, in which their supply for the day is more or less fixed and cannot be much changed for that day in response to a change in the demand. (2) The normal short period market, in which the output can be changed as the result of a change in demand only to a limited extent. Here the time is too short to bring about a change in the productive factors, and the producers have to manage with practically the same quantity of those factors. (3) The normal long period market, in which there is time for the factors of production to adjust themselves to the change in the supply as the result of changed demand. Thus, if there is an increase in demand, the output can be increased with an increased quantity of the

¹ Marshall, *Principles of Economics*, Book V.

factors which have been produced on a larger scale (4) The secular or very long period market in which not only have the factors time to change in response to changed demand but also there is time for big movements which take a long time, e.g. growth in population, migration on a large scale, great improvements in the methods of working, etc

The General Theory of Demand and Supply.

The central problem of economic theory is the inquiry into the balancing of two opposed classes of motives that are found to operate in man in all his economic activities. These are (1) desires to possess the sources of satisfaction, i.e. wealth and (2) aversions to sacrifice which is necessary in order to secure wealth. The desire depends upon the utility to be derived from wealth and the aversion upon the disutility or negative utility to be undergone in obtaining wealth. If at any stage the aversion or disutility is greater than the desire or utility, economic activity will stop before that point. Thus for economic activity to start and to continue it is essential that the utility derived from wealth acquired is greater than, or at least equal to, the disutility of sacrifice. Hence in all such activity we start with the level of utility higher than that of disutility. Here two principles operate which move the levels of utility and disutility in opposite directions. The level of utility is affected by the law of diminishing utility¹ As the man gets an increased quantity of a commodity, his more urgent wants being satisfied by the previous units, the subsequent ones can satisfy only the less urgent wants, in other words, the utility which he derives now is less than what he derived from the former units. Thus the level of utility derived from each unit of a commodity goes on diminishing as the quantity of it which he possesses goes on increasing. On the other

¹ Vide pages 118-119 For a proper study of the law itself, vide Part V, Chapter XXII

hand, the level of disutility is affected by the law of increasing disutility. When he starts work to produce or obtain a commodity his feeling of discomfort for the work done is least in the beginning. But as he goes on working for longer time the work becomes more and more irksome. Hence the disutility from each subsequent work becomes greater than that from the previous work. Thus the level of disutility from each unit of work goes on rising as the amount of work increases. As we start with the level of utility higher than that of disutility and as the former goes on falling and the latter rising, it is inevitable that sooner or later we shall reach a point where the two levels meet. That is the margin at which the two motives of desire and aversion balance. If economic activity along that line is pushed farther, the disutility from the next piece of work becomes greater than the utility of the next unit of the commodity. Therefore, a man stops at the margin. In equilibrium the marginal disutility of the work done becomes equal to the marginal utility of the commodity obtained.

In the above discussion we have been speaking of desire and utility, and of aversion and disutility. But these are subjective notions varying with individuals and the circumstances of each individual. Therefore, there cannot be any immediate objective and quantitative measurement of these desires and aversions. But if we cannot discover any means by which we can indirectly measure their relative quantities, the margin or equilibrium point will remain vague and therefore unsuitable for study in a science like economics. So, we must try to devise a means of such measurement. This can be done in an indirect way. (Although we cannot measure the desire or utility, we can measure the commodity which satisfies the desire and therefore yields a definite amount of utility. Thus the amount of the commodity is the objective measure of desire or utility.) Similarly, aversion or disutility can be so measured by the amount of work done. Hence, as a first step towards objective

measurement of desire by aversion and of utility by disutility, we have two laws of variation. The first connects the amount of things (by weight, number, or volume) with the amount of utility, and the second connects the amount of work (through a period of time) with the amount of disutility. These laws are also subjective inasmuch as the satisfaction given by a thing and the sacrifice undergone in the form of a given piece of work vary with individuals and their circumstances. These laws are not sufficient for quantitative measurement of desire and aversion since there is no connection between the things which measure desire and the work which measures aversion. Hence the third law of variation intermediate between the above two establishes the relation between the amount of things and the amount of work.

Thus at the basis of the theory of demand and supply there are three laws of variation, viz., (1) the law of utility connects the amount of the commodity obtained with that of the satisfaction derived from it, (2) the law of disutility connects the amount of the work done with that of the sacrifice or discomfort resulting from it, and (3) the law of efficiency connects the amount of the commodity obtained with the amount of the work done. The third law is capable of being only objectively ascertained. Thus we can measure quantitatively the amount of the commodity which can be obtained by a definite amount of work. Going behind the commodity and the work, this measures the satisfaction or utility in terms of the sacrifice or disutility. And going behind these terms this measures the desires in terms of the aversions. Therefore, although the latter terms are subjective and hence not capable of direct quantitative measurement, yet through the three laws of variation they can be reduced to other terms, viz., commodity and work, which can be so measured.

In economics a commodity may be either material or non material. So, the above relation between things and work is really one between two commodities looked at

from two points of view, viz., things that satisfy want and things that are to be produced or acquired and given up for the former. In actual life, exchange takes place under varying circumstances. The cases to be found in the modern civilized world can be classified under three categories: (1) Two-sided monopoly where both the exchanging parties command a monopoly of the market. This is rather rare. (2) One-sided monopoly or one-sided competition where one party commands the monopoly which the other party does not. Usually the latter are consumers and the former producers, taking production in its economic sense and therefore including trade, transportation, etc.¹ (3) Two-sided competition where each of the parties competes among its members whether in buying or selling. This case may further be subdivided into two, viz.—(a) Where value is not primarily measured by the cost of production on the supply side. This covers two cases: (i) Where reproduction is practically out of account, e.g. ancient sculpture, rare coins or manuscripts, etc., and where the supply cannot be rapidly diminished, e.g. the precious metals. (ii) Where, in spite of reproduction, causes other than the cost of production have great effect. This happens in the case of non-competing groups, as within a country caste determines occupation in India, e.g. a *brahman* would not take to the sweeper's work however profitable it may be, and as in international trade where cost affects but does not measure or primarily determine exchange value.² (b) Where value is primarily measured by the cost of production on the supply side. In the following study of the theory of value we shall study this case as it is most widely to be found within a country.

Theory of Value.

The exact amount of an article which can be obtained by exchanging another in a market is determined by two

¹ The determination of exchange value under monopoly is studied in Part III, Chapter x.

² *Vide* below, International Trade, Part III, Chapter xi.

forces or two series of forces Ricardo in the beginning of the nineteenth century said that the forces of demand and supply, that is, utility and the cost of production, determine the value in a market but in his exposition of the theory he emphasized the latter. From this his followers for half a century asserted that cost of production alone determined value. The argument was that the value of a commodity must at least cover the cost of production if its production was to be continued and under competition the minimum tended to be the market value. About the middle of the nineteenth century Jevons started the opposite theory viz. that value was determined by utility, that is, by demand. The argument was that the value of a commodity could not exceed the utility which the buyer got from it and if its cost was greater than that, it could not be sold and therefore would not continue to be produced. Marshall combined the two theories, each of which contained an aspect of truth, and has given us the modern theory of value.

✓ The modern theory of value says that the exchange value of a commodity in the market is determined by the interaction of both the forces of demand and supply. Demand is determined by the utility derived from its use. Supply is determined by the sacrifices or expenses undertaken to produce it. Before the value is finally determined in the market there is a sort of see-saw of values, but the fluctuations are confined within definite limits. Demand fixes the upper limit and supply the lower. The buyer would not pay a price which is greater than the money value of the utility which he can derive from the use of the article. This fixes the maximum price, for if the price exceeds this limit he loses in the bargain. With this definite maximum he comes to the market but tries to obtain the article at a price as lower than his maximum as is possible. On the other hand the seller would sell it at a price which is not less than the cost of production which is the money value of the sacrifices he has undertaken to

produce the article and bring it to that market. If the price is lower than this minimum he cannot continue to produce. With this minimum he comes to the market and attempts to raise the price as much higher than the minimum as is possible.

Thus are obtained the maximum and minimum limits beyond which the price of that article cannot normally go. Between these limits the exact point at which the market price will be fixed is determined by two factors, viz.—(1) the extent of the buyers' demand and that of the sellers' desire for other things which can be bought with the price, and (2) the bargaining capacity of each party. (1) If the buyers' demand is large they compete among themselves and raise the price to a higher level, within the limits, than it otherwise would have been. This means that the greater part of the gain by exchange goes to the sellers, and the price is nearer to the buyers' maximum than to the sellers' minimum. On the other hand, if the sellers are in urgent need of other things which can be bought with the price of their products, they compete among themselves, and the market price stands nearer to the minimum than to the maximum.

(2) Again, if any of the parties is ignorant of the extent of the other party's desire or is otherwise weak as bargainer, the price is likely to be nearer to the limit fixed by its requirements. Thus with weak buyers it is near the maximum, and with weak sellers it is near the minimum.

The market price is thus determined by the forces of demand and supply. As Marshall happily puts it, they work like the two blades of a pair of scissors. Even when one blade is kept fixed and a piece of paper is cut by moving the other blade, we cannot say that the latter only cuts the paper, but must say that the work is done by both. Similarly, even when apparently either demand or supply fixes the price in the market it is really the work of both operating jointly. This does not mean that the part played by the two forces of demand and supply is the same.

in order to adjust the supply to the demand, the new supply will be produced by having an adequate variation in the factors of production at their maximum efficiency This will tend to diminish the cost per unit of output in the case of increased supply and increase the cost in the case of reduced supply, because in the first case the advantages of large scale production will accrue while the opposite will operate in the second case. But what actually will be the trend of the cost will depend upon the operation of the law of productivity If the industry was under the operation of the law of diminishing return an increase in the supply will increase and a fall in it will diminish the cost of production. If the industry was under the operation of the law of increasing return, an increase in the supply will diminish and a fall in it will increase the cost. If the industry was under the operation of the law of constant return, the cost will remain the same for an increase or fall in the supply. Whether the actual cost will increase or diminish with a change in the supply will depend upon the intensity of the particular aspect of the law of production which was operating and the extent of the advantages or disadvantages which accrue as a result of the variation in the scale of production.

In this case the supply can adjust itself to the new demand, and therefore plays a more prominent part in the determination of the price. In such circumstances, in a competitive system the price tends to be very near to the cost of production or the lower limit of the variation in the price.

The Secular Market.

If we take the very long market—what Marshall calls the secular market—in which not only have the factors time to adjust themselves to the new condition of demand, but there is time for the operation of big movements like increase in population, migration, scientific inventions, opening up of natural resources, developing new markets,

improving communications, etc., the adjustment of supply is more complete than ever before. In such cases supply becomes a more predominant factor in determining the price and demand is more or less passive like the fixed blade of a pair of scissors.

Thus we see that the shorter the period, the greater is the influence of demand and the less that of supply in the determination of the market price, while the longer the period the less is the influence of demand and the greater that of supply.

Market Operations.

Marshall calls the short period and the long period markets the normal market because normal changes, that is, changes which can be foreseen and therefore provided for in advance, take place in these markets. In such a normal market the variation in the price cannot be so violent as in the daily market, nor so slow and imperceptible as in the secular market.

FUTURES. What are called dealings in futures work in this market. We know from Chapter III that the supply in a market is not necessarily the stock. If the price is low only a portion of the stock will be placed in the market as supply. With a sufficiently high price the whole stock may be the supply. This market price of the present is always compared with the expected market price in future. In the first case the supply is small because the future price is expected to be higher, and therefore supply is withheld as stock for the future sale. In the second case the supply is large because the expected price in future is likely to be lower and therefore stock is brought out as supply.

This relation between the present price and the supply and the future price and supply enables a market to have an even level of price over a long period of time and prevents its violent fluctuations. Thus if it is expected that as a result of a rise in the demand or a fall in the supply, the price of an article is likely to go up in future, traders will

withhold a portion of the present supply for sale in future. This will have the effect of reducing the present and increasing the future supply. This will lead to a rise in the present and fall in the future price. Thus the two prices will be brought nearer to each other and there will not, therefore, be that violent fluctuation between the present and future prices which would have come had the present stock formed the present supply and the future output the future supply. On the other hand, if the future price is expected to fall as a result of reduced demand or increased supply, a large portion of the present stock will be the present supply at the high market price prevailing now. Thus the present supply will increase and the future supply, which would otherwise have increased by the present stock being withheld for future sale, will diminish. This will lower the present and raise the future price, thus confining the price fluctuations within narrower limits than would have been the case if the present supply had not increased and the excess of the present stock over the present supply had all increased the future supply.

The Stock Exchange.

This operation in future dealings is extensively to be seen in all organized markets, especially in those goods which have a wide market. It is to be found primarily operating through wholesale transactions in which the parties on both sides—that is, demand and supply, are well versed in studying the conditions of the market, as also in the art of bargaining. We shall explain the exact operations, taking for illustration the stock exchange, one of the best organized markets in the world. Here we have several parties operating on the market. First, there are the *bona fide* buyers and sellers who are ever ready to buy and sell, according to their wants, within the maximum and minimum limits beyond which price cannot vary. Next, there are the brokers or commission agents whose real function is to bring together the buyers and the

sellers usually through other parties. The latter are the jobbers who operate in the market by both buying and selling. They quote a lower price at which they are willing to buy and a higher price at which they are willing to sell. Obviously, if there is brisk sale both their prices will rise and if there is slack trade they will fall. But the real operators who ultimately determine the market price and relate it to the future price are the *Bulls* and the *Bears*.¹ Both these are dealers in future transactions on the basis of a present contract. The Bull is one who contracts to buy at a fixed price a certain quantity the delivery of which he will have at a fixed future date, usually after a fortnight. He is not a *bona fide* purchaser. He really buys because he expects the price to go up at the time of delivery and, therefore, expects to make a profit by selling it at the time. Thus he is in appearance a buyer but in essence a future seller. The Bear contracts to deliver in future at a certain fixed rate a certain quantity of the goods. He is not a *bona fide* seller, in fact, he has not any stock. But he expects the price to fall at the time of delivery and buy then at the low price and deliver the goods according to his contract. Thus although in appearance he is a seller, he is really the future buyer.

From the above it is apparent that if the future price rises the Bull makes a profit and the Bear suffers a loss, while the contrary is the case with a fall in the future price. Delivery of goods is neither taken nor given. If the future price rises the Bear simply gives the Bull the excess of the future price over the contracted price, while if the future price falls the Bear receives the excess of the latter over the former. The important effect of these speculative transactions is that every factor that affects the future price of the goods in the organized markets is carefully studied by the Bulls and the Bears, who are great experts in the matter. Thus one expert body is pitted against another, one operating in anticipation of a fall and the

¹ Potewala and Mathewala.

other for a rise in the future price. By such transactions the present and future prices are brought into very close relation, and the result is a comparative steadiness in the two prices and a prevention of violent fluctuations. This is a great advantage for the *bona fide* sellers, since their calculation of their profit or loss would have been upset by violent changes in prices, as also for the buyers who have more or less steady prices at which they can buy. This is the great practical advantage obtained from speculation.¹

Joint Demand and Supply.

Joint demand involves complementary supply. There is connection from the side of demand while the supply is independent, e.g. blade and handle. But the supply of the two must complement each other so as to produce knives. The supply price of the finished commodity is equal to the supply prices of the factors.

Joint supply involves complementary demand. Here there is connection from the side of supply while the demand of the two is independent, e.g. wheat and straw. But the demand of the two must complement each other so that the demand price of the two together covers the cost of production.

Alternative Demand and Supply.

Alternative demand involves competitive supply. The same ultimate demand can be satisfied by either of two things, e.g. tea or coffee. Thus the more of one is used, the less of the other is required. Here there is connection from the side of demand while the supply is independent. But the total supply of the articles that can satisfy the demand depends upon the units of demand for each.

Alternative supply involves competitive demand. Here

¹ There are disadvantages and some other advantages of speculation. Here the case is presented in its simplest form. The operations are in fact very much more complicated in the actual markets than what are described here.

out of the same source either of two things can be produced. Therefore, the more of one is produced, the less must be the production of the other. The needs met by the two thus compete with each other.

From this it can be understood that a disturbance in the demand or supply of one of the articles which are connected through demand or supply must alter its demand or supply schedules. In joint demand, if the supply of one of the factors is thus disturbed, its demand price will be equal to the demand price of the finished commodity *minus* the supply prices of the other factors. In joint supply a disturbance in the demand for one of the products will make its supply price equal to the total cost of production *minus* the demand price of the other products. In alternative demand, if there is a disturbance in the supply of one of the two things, for each price of the ultimate satisfaction to which both contribute, the amount of demand of that thing will be equal to the total demand *minus* the supply amount of the other thing. In alternative supply, if there is disturbance in the demand for one, for each price of the total products, the amount of supply of that thing will be equal to the total supply of all the products *minus* the demand amount of the other things.

The conditions in which a check to the supply of one of the factors of joint demand may raise its price very much may be summarized thus¹: (1) The factor should be essential to the production of the finished commodity and no substitute available at the same cost. (2) The finished commodity itself should be an essential article the demand for which is great and for which no good substitute exists at the same price. (3) The proportion of the cost of the factor to the total cost of the finished commodity should be small, so that a great rise in the former will bring about a comparatively small rise in the latter. (4) A small rise in the price of the finished commodity should bring about a great fall in the supply prices of the other factors,

¹ Marshall, *Principles of Economics*, Book V, Chapter vi.

thus leaving a great margin for the rise in the price of the particular factor. This will happen only when the other factors of production are being produced under the intense operation of the law of diminishing return, so that a small fall in their demand, consequent on a small fall in the demand of the finished commodity as its price rises a little, will bring about a *great fall in their cost of production or the supply price*.

In practice, however, such tyranny of one factor is prevented by the operation of the law of substitution that is, by the absence of the first two conditions stated above, and by the presence of cheap substitutes for the other factors of production.

CHAPTER X

MONOPOLY

IN olden times monopoly used to be conferred by the Government. The modern conception of monopoly excludes this. It results from the action of independent dealers. It is a power derived from the concentration of capital in a few hands which are under joint control. It may be defined as "that substantial unity on the part of one or more persons engaged in some kind of business which gives exclusive control, more particularly, although not solely, with respect to price¹." Thus monopoly is contrasted with competition.

Kinds of Monopoly.

Monopolies may be classified variously. We shall give here three classifications. The first classification may be made as follows :

1. Kartel.
2. Trust or horizontal combination.
3. Vertical or efficiency combination.

THE KARTEL. Kartel is a combination of independent producers the object of which is to obtain commercial, as distinguished from productive, advantages. It is really a development out of a pool which is not monopoly but only a step towards it. The aim of a pool is to escape competition. It retains the separate economic existence of the members. It divides among them the territory which each is to serve, or the earning, or the total production. A pool is an unstable combination which leads to competition by dissolution or to kartel by further development of combination. The aim of kartel is also to limit competition. In certain definite matters there is a common course of action agreed upon by the parties, e.g. limitation of the

¹ Richard T. Ely, *Outline of Economics*, Book II, Part IV, Chapter VIII.

output, maintenance of price at a certain level, etc (In a *kartel* the members retain their independent existence and surrender their freedom only with regard to some agreed matters primarily commercial. The process of production is separate and uncontrolled. It varies according to the degree in which freedom of the members is limited.) Some aim at regulation of demand, others at that of supply by regulating the conditions of sale, the questions of discount, credit, etc., to be given to each member, or by fixing the minimum price at which the members are allowed to sell their output or by limiting the output in order to relieve a market suffering from over-production. Not much economy of production can be obtained inasmuch as there is no co-ordination in production.

THE TRUST The final object of the horizontal combination is the same as that of *kartel*, viz., limitation of competition. Here the processes of production are co-ordinated but only in regard to interdependent industries. The same grades of production in different business units are combined and placed under joint control. On the principle of division of labour and specialization of the plant there is a fusion of the whole industry into one compact body. Thus there is common management leading to all the economies of large scale production. It is now a partnership of corporations which were formerly independent and were competing with one another.

It was first devised in the United States of America by the *Standard Oil Company* in the eighties of the last century. The shareholders of the different corporations surrender their shares to the trust, which issues new shares of the monopoly, the amount of which is determined by the proportion of each original share to the total capital of the trust. Thus the different and competing interests of the corporations are unified and the trust becomes one body.

The trust is really a development towards closer union from the *kartel*, the difference between the two lying in the

degree of control exercised by the trust. The kartel is an alliance or federation while the trust is a fusion or amalgamation.

THE VERTICAL COMBINATION. The vertical or efficiency combination aims at combining not only similar productive processes of the various units, but also all complementary processes of production from the raw material to the finished commodity. It is a "groupment in depth." (Different grades of production which gradually lead to the production of a commodity are all combined under one management and control.) Thus is evolved a system of co-ordinated plants covering the whole of an industry. Sometimes the horizontal and vertical monopolies are combined together. Then the new monopoly becomes a huge organization absorbing not only the same grades of different business units but all the grades as well. Such a monopoly is the Standard Oil Company of America.

Further Classification of Monopolies.

The second classification of monopoly is into (1) legal monopolies, e.g. patent or copyright, (2) State monopolies, e.g. salt and opium in India, (3) natural monopolies, which by virtue of the nature of the work tend to become monopolies, it not being the interest of one to start the same work which has already been started by another, e.g. railroads, telegraphs, waterworks, tramways, etc., and (4) capitalistic monopolies, that is, those which become as by virtue of the advantages derived from the use of large capital concentrated into one body, e.g. the Standard Oil Trust, the Sugar Trust, the late Whisky Trust of America

Social and Natural Monopolies.

A third classification of monopolies may be as given below¹:

A. Social monopolies—

1. General welfare monopolies: (1) patents, (2)

¹ Richard T. Ely, *Outline of Economics*, Book II, Part IV, Chapter XIII.

copyrights, (3) trade marks, (4) public consumption monopolies, e.g. regulation of liquor traffic, (5) fiscal monopolies, e.g. salt in India

2 Special privilege monopolies (1) those based upon public favouritism, e.g. special tariff advantages, and (2) those based upon private favouritism granted by other monopolies e.g. special rates of freight by railways

B Natural monopolies—

1 Those arising from the limitation of supply of raw materials, e.g. jute in India

2 Those arising from peculiar properties inherent in the business itself e.g. roads, railways, canals, docks, telegraphs etc

3 Those arising from secrecy, e.g. German industry of synthetic dyes, especially before the war

Social monopolies are those which grow by legal enactment or by some other social arrangements. Natural monopolies depend on natural forces as distinguished from social arrangements. Whenever there is a decided increase in the profit to be obtained by combination monopolies naturally grow

Causes of Combinations

In recent years there is a constantly extending field of industries from which competition is being eliminated because its existence is not natural or not possible. The causes which lead to industrial combinations may be thus classified—

1 Normal The normal causes are all pervading. Since the Industrial Revolution which introduced the extensive use of machinery there has been a continuous growth in the size of business units. This is primarily due to the advantages of division of labour, of the use of machinery, and of the large scale of production. Thus instead of a large number of small business units there is now a small number of large business units. Moreover,

the use of specialized capital has extended so much that few business units can afford to give up production without serious loss. Hence attempt is made artificially to create demand. But the market and the means of communication with it have not developed so much as the increase in output. The result is intense rivalry often leading to over-production and lowering prices below the profit level. If the large producers persist in competition it will lead to the ruin of all. But if they combine and limit production, or unite in production, and raise prices they can all earn good profit out of (i) the lower cost of production as a result of the larger scale of production, (ii) the low price at which they can buy their raw materials since they are the only purchasers, and (iii) the high prices at which they can sell their finished goods to the consumers.

2. Artificial or abnormal. These causes are the results of human interference. The more important forms of these are—

(i) The protective tariff. By limiting competition within the country and penalizing the imported goods an artificial stimulus is given to home industries. This leads to monopoly, first because combination raises the internal prices to the import point, and secondly because competition robs the extra profit from all and lowers prices, thus making combination profitable.

(ii) Railroad discrimination. Competition among the railroads always leads to such discrimination. Up to 1905 this used to be the case between the G.I.P. and B.B. and C.I. Railways between Bombay and Delhi. Although such discriminations are not essential to the growth of monopolies yet they can rule the fortunes of manufacturers or dealers.

(iii) Unwise legislation. This is an important factor in giving direction to combinations. For example, the attempt to suppress Pools led, in the United States, to the formation of Trusts which, when attacked, developed into a Community of Interest keeping up the combination

but technically evading the law. The final attempt of the law led to the formation of the Holding Corporation, a sort of mobile combination, the combination part of which is very effective and the mobile part is developed to elude the law.

3 Minor causes. There are some peculiarities in different countries which help the growth of combination and give special forms to them. For example, in the United States, unlike England, politics do not attract the best men, who almost invariably go to industries. Thus industrial activity in America is more adventurous, risky, and offensive than in England. The field of industrial activity is continually widened, leading to the formation of large trusts. Again, an original combination of the employers, formed in order to control the workers, may develop into a closer combination and end in monopoly.

Monopoly Revenue

The interest of the monopolist is to secure the maximum total profit. Profit depends upon the excess of the price at which a commodity is sold over its cost of production. The latter varies and one of the objects of combination is to reduce it. The price, on the other hand, can be raised subject to the maximum which is fixed by the demand. Thus in order to secure the maximum net gain the monopolist is to find out that demand price at which the quantity demanded multiplied by the excess of the demand price over the monopoly cost of production is the greatest. The monopoly price can be high if the following conditions exist—

1 The demand for the commodity is inelastic so that a substantial rise in the price will not materially reduce the quantity demanded.

2 The general average of economic well-being is high so that the marginal utility of money being small, people will be prepared to pay a comparatively high price for a given quantity of the commodity.

3. The standard of living is high so that the habit of expending income is extensive in the community. Otherwise there may be high income but it may lead to greater saving than spending.

(The ideal monopoly price will be the price fixed according to the demand price of each individual customer, so that each customer will be compelled to pay the highest price which he is willing to pay rather than go without the commodity. But as this is impossible, in practice the next best thing is to divide the customers into classes and charge each the maximum price it is willing to pay. This the railways, theatres, etc., do and charge separate prices for different classes of the community. Another way of such discrimination is (to charge separately for different uses of the same commodity, e.g. electricity for light, cooking, factory, etc.)

In real life the tyranny of monopoly may be alleviated by the existence of other circumstances. These may be as follows—

1. Monopoly may not be complete. Fear of competition will effectively check the rise in monopoly prices.

2. A monopolist may miscalculate and not know the price at which he will get the maximum revenue.

3. He may be prudent and not provoke too much public resentment, which may lead to State regulation of his prices.

4. He may be really desirous to benefit the consumers and charge prices which will divide the monopoly revenue between himself and the consumers.

The way in which monopoly prices are fixed shows that monopoly prices need not be higher than competitive prices. Monopoly prices may be primarily due to reduction in the cost of production. Thus they may be actually lower than competitive prices. On the other hand, they may be primarily fixed at a high point because the monopolist can force the customers to pay high prices. In practice it is found that the latter is always an important

factor and therefore monopoly prices are higher than com
petitive prices In general we may say that the amount of
monopoly product will be great and therefore the price at
which it is sold will be low if the monopolist is in any way
desirous of promoting the interest of the consumers

(Sometimes it may be desirable for the government of
the country to start an industry which is expected per
manently to incur a loss From its very nature the in
dustry is bound to be a monopoly Such a case will
arise when the price at which the product can be sold is
lower than the cost of production and yet the social
benefit to be derived from the industry is very great)
The total benefit of an industry consists of the benefit to
the consumers and the profit to the producers If the
former is very great and if the loss to the producers is small
the total benefit to the society will be the former *minus*
the latter Thus if the Government runs such an industry
or subsidizes such an industry the total benefit may be
high even when the subsidy is deducted from the benefit
to the consumers From the strictly economic point of
view education is such an industry The cost is per
manently higher than the income but the economic benefit
—the consumer's surplus—is vastly greater than this
deficit Another illustration in India was the railway
industry up to the beginning of the present century

Effects of Monopoly

Some of the effects of monopoly are good for the country
Some others are bad

BENEFITS OF MONOPOLIES The benefits of monopoly
are mostly those arising out of the very large scale
production

1 The weak plants are stopped from working and the
best ones are combined together and worked to their
fullest capacity This must *mean* more efficient pro
duction than before

2 Each department is placed under the best expert

and division of labour in organization can be carried to a greater extent in monopoly than it is possible to have under competition.

3. The cost of transportation can be reduced in two ways, viz.—(a) by having specially low railway rates since the quantity moved is very large, and (b) by having branches all over the country and supplying customers from the nearest branch.

4. By-products which, in a small industry, would be wasted, can be utilized or sold to a subsidiary industry which is likely to grow near it because of its by-products.

5. Inventors and experts can be employed to a greater extent than in the case of a smaller industry.

6. Lower prices are possible because of the reduction in the cost of production.

EVILS OF MONOPOLIES. The evils are at least equally manifest.

1. Actually it is seen that prices are higher than competitive prices. This is so because of the capacity of the monopolist to push up monopoly prices to the full height of the demand prices.

2. Usually it is found that movements in prices are sudden and violent. This is because the steadying operations of the Bulls and the Bears in the market of a monopolistic article have little control owing to the lack of competition among the producers.

3. The organizers or managers know the internal situation and often speculate in the trust shares. This is bad for the *bona fide* shareholders.

4. The market of a monopoly being certain and profits being sure, the monopolistic organization does not have the same incentive to be enterprising and careful of business methods as the competitive organization.

5. The whole system of production being centralized and the number of business units being reduced, there is less scope for individual responsibility among business men.

6 There is possibility, as in the United States of America, of corruption of the courts and the legislature by the monopolists for their own economic self interest

CONTROL OF MONOPOLIES Since the evils have become very prominent, such organizations are coming to be considered as a danger to the public In the United States they have been declared illegal by law and judicial decision But under different forms they continue and flourish For example, the Standard Oil Company was dissolved in 1910 by judicial decision, but it is still a monopoly The attempt to suppress monopolies seems to be futile, especially so far as they are the result of the normal causes Also if properly controlled they can be of great benefit to society The best means to handle them have been recommended in America to be by Government inspection, publicity of their work and some control over unreasonable prices (It is apparent that as this work is to be done by the Government through the law and the courts, to the extent that the monopolies can successfully corrupt the legislature and the courts, the effectiveness of these means becomes reduced)

CHAPTER XI

INTERNATIONAL TRADE¹

INTERNATIONAL or foreign trade between two countries is an extension of the principle of territorial division of labour or localization of industries. The principle of international exchange is the same as that of internal trade. The difference between the two lies in the fact that there is not the same mobility of the agents of production from one country to another as there is within the same country. This difference, however, is a difference of degree rather than of kind, for within a country also, especially in a vast country like India, there is more or less friction in the mobility of the industrial agents from one part to another. When this friction exceeds a certain limit—the exact position of which is indefinite—the two units of territory separated in this way become distinct so far as production is concerned. To such units the theory of international trade is applicable, although they may form parts of the same political unit. (As usually the political units are differentiated by geographical barriers, differences in language, social customs and habits, etc., the political unit tends also to be the economic unit within which there is fair mobility of the industrial agents, and between which and other political units they tend to become much less mobile.)

Law of Comparative Cost.

Foreign trade exists only when certain specific conditions are present. From these is deduced the law of comparative cost which may be stated thus—"The one condition at once essential to, and also sufficient for, the existence of international trade is a difference in the comparative, as contradistinguished from the absolute, cost of producing.

¹ C. F. Bastable, *Theory of International Trade*.

the commodities exchanged ¹ The comparison is to be made between the commodities produced in one country with those in another and not the cost of one commodity in the two countries nor the cost of two commodities in the same country In other words the productivity of the same amount of industrial agents as applied in the two countries is to be compared This comparison again is of sacrifices and not prices for prices as we shall see ² vary as a result of many other causes than those that affect sacrifices

Thus if we take two countries A and B and assume that each produces only two commodities x and y and suppose that one unit of the factors of production in A produces $2x$ or $3y$ and that in B produces $4x$ or $6y$ then there will be no foreign trade for there is no difference in the comparative cost of

A	B
$2x$	$4x$
$3y$	$6y$

production The ratio of the production of x to y in A i.e. $2/3$ is the same as that in B viz. $4/6$ i.e. $2/3$ although absolute cost is different since the cost of production of x is different in A and B and that of x and y is also different The law of comparative cost says that there must be this difference before there can exist foreign trade It is apparent that the two countries will agree to give up isolated production and have foreign trade only if there is some additional gain by doing so But so long as the comparative cost remains the same there cannot be any gain by each country specializing in the production of x and y In the above illustration the total output of A and B before foreign trade is $6x$ plus $9y$ the value of which in terms of x is $12x$ and that in terms of y is $18y$ Let us suppose that there is specialization in production and that A produces x and B produces y Then the combined output will be $4x$ plus $12y$ the value of which in

¹ J. E. Cairnes *Leading Principles*

² *Vide* below Part III Chapter XIII

terms of x is $12x$, and that in y is $18y$. If A produces y and B produces x , then the total output will be $8x$ *plus* $6y$, the value of which in terms of x is $12x$, and that in y is $18y$. Thus whether A produces x and B produces y , or A produces y and B produces x , the combined output remains the same as without specialization and foreign trade. Thus there will be no foreign trade without a difference in the comparative cost. Now we shall vary the illustration to make this difference. Let it be as follows—

A	B
$10x$	$10x$
$15y$	$20y$

Here the proportion is $2 : 3$ in A but $1 : 2$ in B. Therefore, there is a difference in the comparative cost of producing x and y . Now the total output before specialization is $20x$ *plus* $35y$. If A produces y and B produces x , the total output will be $20x$ *plus* $30y$, and if A produces x and B produces y it will be $20x$ *plus* $40y$. Thus an additional output of $5y$ will arise as a result of foreign trade, and a share of this will induce A and B to specialize respectively in the production of x and y , and get the other commodity by foreign trade. Thus we see that a difference in the comparative cost is essential to foreign trade, and that it is also sufficient for it, since its presence alone is enough to introduce foreign trade.

So far we have neglected any increase in the cost incidental to foreign trade, which must be subtracted from the gain in order to obtain the net advantages of foreign trade to the two countries. Such additional expenses are the cost of transportation, Customs duties of the countries, etc.

Effects of Foreign Trade.

Here we may conveniently summarize the advantages and disadvantages of foreign trade.

The advantages are—(1) A country can obtain a commodity which it cannot produce at all or cannot produce so easily as another country. (2) The productive factors

increase in efficiency because they are diverted to the production only of those commodities for which they are specially suited and because the production is carried on a larger scale since it is to supply both the home and the foreign markets (3) New markets are thus created for home products which can be utilized for other purposes as well (4) As the exports of a country pay for the imports and as the production of the exported commodities is by our hypothesis easier for the country than the production of the imported commodities for equal values of export and import the gain from imports is in terms of sacrifices greater than the loss from exports (5) There are many social and moral bonds that arise between several countries which would otherwise not be possible

As against these there are some disadvantages of foreign trade They are—(1) When foreign trade begins there must be displacement of productive factors from one industry for diversion into another But this evil can be only temporary during the period of transition and if we remember that such transfer actually takes place at the time of replacement of capital and is therefore gradual the hardship cannot be great (2) The danger of over production is increased As the market widens the chance of being able accurately to calculate its forces becomes less But in modern times there are also other factors insurance speculation etc the effect of which is to lessen risks and moderate the fluctuations in prices (3) National self sufficiency is lost by foreign trade each country depending upon others for some articles of consumption Therefore diversity of industries is desirable From the strictly economic point of view this objection has little force For political reasons it may be necessary for a country to be independent in the production of war materials From the cultural point it may be necessary for a country to have a large variety of industries especially those requiring high grade artistic skill and delicate taste In India the argument is used to provide a protection against the failure

of crops, so that temporarily the agricultural workers may be employed in other industries. This argument is wholly fallacious.¹ With agricultural distress the purchasing power of the people diminishes. This reduces the market of all other industries. Thus these, instead of being able to employ more, are themselves in depression. (4) When an industry is under the operation of the law of diminishing return, foreign trade further intensifies the operation of the law. This affects all primarily agricultural countries, especially old ones working with crude implements, e.g. India. This also affects countries exporting the product of extractive industries, e.g. English coal, American petroleum.

International Value.

The limits within which alone international value can fluctuate are fixed by the law of comparative cost. The exchange values of the commodities in the countries engaged in foreign trade fix these limits. To illustrate by our previous example, the exchange value of x and y in A is $10x = 15y$ or $1x = 1\frac{1}{2}y$, and that in B is $10x = 20y$ or $1x = 2y$. These are the limits beyond which the relative value of x and y in foreign trade between A and B cannot vary. If $1x$ is less than $1\frac{1}{2}y$, A will find that instead of getting y at this rate, it is profitable to divert the factors producing x , to be exported in exchange for y , to the production of y , in which case it will get at least $1\frac{1}{2}y$. Therefore, A will refuse to enter into foreign trade if $1x$ is worth less than $1\frac{1}{2}y$. On the other hand, if $1x$ is more than $2y$, B will find that it has to give up more than $2y$ in order to get $1x$. But it can produce at least $1x$ by diverting the factors which now produce $2y$ to be exported in exchange for x . Thus the relative value of x and y can vary only within $1x = 1\frac{1}{2}y$ and $1x = 2y$, that is, the limits which are fixed by the law of comparative cost.

¹ *Vide* Author's *Economic Development of India*, Vol. I, Chapter VII, Section (4).

Within these limits the relative value of the commodities subject to foreign trade depends upon the comparative intensity of demand on each side exactly as it does in internal trade. If the demand of A for y be very elastic and that of B for x very inelastic it is conceivable that most of the advantages of international trade would go to A. For A's eagerness to buy being very much less than that of B the value would tend to be nearer B's rate ($1x = 2y$) than A's ($1x = 1\frac{1}{2}y$).

So far it has been tacitly assumed that the comparative cost of producing different commodities is fixed. This is not so in life. Every change here necessarily brings about a change in the nature of foreign trade as also in international values. Such changes will be introduced according to the particular aspect of the law of productivity. If the law of increasing return is operating in an industry with foreign trade the output increases and therefore the cost of production per unit diminishes. In other words the output per unit of productive factor increases. If the production of y is under the operation of the law of increasing return foreign trade may alter the rates in B from $1x = 2y$ to say $1x = 3y$. On the other hand if the production of x is under the operation of the law of diminishing return foreign trade will increase the cost per unit. In other words the output per unit of productive factor will diminish. That is the ratio in A will alter from $1x = 1\frac{1}{2}y$ to say $\frac{2}{3}x = 1\frac{1}{2}y$. Thus the comparative cost of producing x and y will now stand thus—

A	B
$7\frac{1}{2}x$	$10x$
$15y$	$30y$

Apparently now there will be an alteration in the relative value of x and y the limits of fluctuation having shifted from $1x = 1\frac{1}{2}y$ and $1x = 2y$ to $1x = 2y$ and $1x = 3y$. It is conceivable that such changes in the comparative cost may bring about a stoppage of foreign trade. For example if x is under the operation of the law of increasing

return, and y under that of diminishing return the ratio may be—

A	B
$15x$	$10x$
$15y$	$10y$

in which case the proportion being $1x = 1y$ in both the countries there is no difference in the comparative cost, and therefore foreign trade will cease.

We have already mentioned that the incidental cost of foreign trade will reduce the gain. An inevitable item of cost is the cost of transporting the commodities from one country to another. Another important item is the Customs duty imposed by different countries on the export and import of commodities to and from other countries.

It is worthy of note that as the currency systems of different countries vary, the movement of specie or bullion is in the nature of commodities and not money. Therefore, the obligations of one country to the others must ultimately be equal to those of other countries to this one. This is what is called the balance of trade or equation of indebtedness. But such equation obtains only in the long run. Temporarily sometimes there is an excess of the credit over the debit side, and sometimes that of the debit over the credit side. In economics the former is called a favourable and the latter unfavourable or adverse balance of trade. Such excess either way has nothing to do with the economic prosperity or adversity of a country.

The equation of indebtedness is brought about by many constituent factors. These affect the equation in different ways. They are—

1. Imports and exports, imports tending towards unfavourable and exports towards favourable balance of trade.

2. International loans. The receipt of a loan means that the receiving country is entitled to import goods to the extent of the loan, and the loan thus tends towards

favourable balance On the contrary, giving a loan tends towards unfavourable balance

3 Annual interest The borrowing country would have to pay and the lending country to receive this Thus it tends to unfavourable balance to the former and favourable to the latter

4 Repayment of the loan This works exactly in the opposite way to that of giving and receiving loans

5 Foreigners residing in a country or natives residing abroad may remit their saving to their homes The former tends to unfavourable, and the latter to favourable balance of trade

6 Similarly, expenditure of a foreign traveller means remittance from home, and therefore makes for unfavourable balance

7 Gifts made from one country to another, and indemnities to be paid by one country to another will also affect the balance

8 Freight If the foreign trade of a country is carried in foreign bottoms the payment for the shipping services will incline the balance adversely to the country

9 Similarly, the expenditure of a government in foreign countries tends to bring about an unfavourable balance of trade

Taking all the above items into account the equation of indebtedness of a country must be maintained in the long run

India's Balance of Trade.

India, being a debtor country and having large payments to be made to England, e g owing to the "home charges" consisting mainly of the interest on the money borrowed, pensions paid to the retired members of the Government service, etc, as also the shipping charges to English ship-owners there is usually a favourable balance of trade, that is an excess of exports over imports The total foreign trade is about R 665 crores, of which exports consist of

R.365 crores, and imports of R.300 crores. The principal items in each are as below—

IN CRORES OF RUPEES

EXPORTS		IMPORTS	
Cotton, raw and manu- factured	100	Cotton yarns and manufac- tures	68
Jute, raw and manufac- tured	62	Iron and steel manufac- tures	18
Food grains	51	Machinery	20
Tea	32	Sugar	16
Seeds	30	Oils	7
Hides and skins, raw and tanned	13	Railway plant	12
		Hardware	6
		Vehicles	4
		Paper and stationery	4

PRINCIPAL COUNTRIES

(In percentages)

	Exports	Imports
The United Kingdom	25	58
Other parts of the British Empire	14	7
Japan	14	6
The United States	9	6
Other foreign countries	38	23

The main items in the balance of foreign indebtedness of India can be seen from the following figures of 1923-24—

In crores
of rupees

A. In favour of India :

(1) Exports of Indian merchandise (private)	349
(2) Re-exports of foreign merchandise (private)	13
Total	362

B. Against India :

(1) Imports of foreign merchandise (private)	237
(2) Imports of gold and silver	53
(3) Miscellaneous	6
Total	296

The net balance in favour of India was about R.66 crores.

CHAPTER XII

FREE TRADE AND PROTECTION

FREE Trade is a system in which the fiscal policy gives an equal and uniform treatment to the home and foreign products of the same kind. Thus there are no differential duties on the foreign product, nor are there any artificial encouragements to the home products. If any taxes are levied on the industrial products they are for purposes of revenue only. From what we have learned about the advantages of international trade we can see that free trade makes for cheapness and abundance, and is therefore good for the consumer.

Protective Tariffs.

A Protective Tariff is a schedule of duties imposed on the movements of commodities from or to the country in order to discriminate in favour of the products of home industries, so that in the home market the latter may be in a better position, artificially secured, than similar products imported from foreign countries. Such a duty may be either on the export of raw materials which are required for the home industries or on the import of finished products from foreign countries. Productive efficiency of a country depends upon the natural resources and man's capacity to work them. The former is practically fixed. The latter varies. Protection seeks to develop man's capacity to work the natural resources. Therefore, it is good for the producer.

Advantages of Protective Tariffs.

The arguments in favour of protective tariffs may be classified thus—

I FALLACIOUS ARGUMENT. That it gives greater employment to labour. This is fallacious because the tariff

only transfers capital from one industry to another within the country, from an industry which flourished under free trade to one which is considered to be more desirable. The tariff as such increases neither the total capital nor the effective capital of the country. As industry is limited by capital, therefore there cannot be any expansion of the industrial system merely by the tariff. Without an industrial expansion greater employment of labour cannot come about.

2. ECONOMIC ARGUMENT. That an infant industry requires protection during the period of growth. An industry, especially one which requires a large plant of specialized capital, takes some time before it fully develops and obtains all the advantages of division of labour, use of machinery, large scale production, business connection, expert management, etc. During this period, if it has to compete with other industries which have passed through the initial stages and attained all those advantages, it has little chance of success. Therefore, in the initial stages protection may be desirable and necessary. Such protection raises the price of the foreign products and, therefore, inflicts a loss upon the consumers. This is allowed in the hope that after a short period the home industry will become as efficient as its foreign rival. Thus in giving protection to an infant home industry the following points should be considered—(i) wealth lost during protection ; (ii) fixing the proper amount of tariff for the requisite period—this is to harmonize the conflicting interests of the consumer and the producer, a too high tariff inflicting too much loss on the former and a too low one not helping the latter ; and (iii) constitution of the body to determine these affairs.. In India the Tariff Board makes a recommendation, and the Government of India, normally through the legislature, gives effect to it.

3. NON-ECONOMIC ARGUMENTS. These are the more important arguments in favour of protection. The basic idea is to sacrifice national wealth for national well-being

in other ways or to promote national unity These arguments may be subdivided thus—(i) For national safety, arms, ammunition, and other war materials must be produced at home (ii) In order to be independent, at a time of national crisis, with regard to the food supply, it is necessary to develop agriculture (iii) There is a cultural status which goes with the development of manufacturing industries, so these should be developed (iv) Diversity of industries is a cultural necessity in order to prevent one sided growth of a nation, to avoid too much dependence on other countries, and to provide an outlet for the transfer of productive units in case of a widespread disaster on the failure of many interconnected industries

Advantages of Free Trade.

The evils of protective tariffs are that the advantages due to free trade¹ are lost and that some political evils arise These are the struggles between different interests for protection, which may become almost endless For example all those industries which use the products of a protected industry clamour for protection inasmuch as their cost of production increases Another political evil can be seen in the great menace to the democratic form of government in the United States, from the trusts which are the results of protection

In India the most important protective tariff is the one which has been imposed on the import of steel products in order to develop the iron and steel industry of India Usually it is supposed that the protective tariff is the only means by which the Government can encourage the development of industries in India This is not so We shall mention various other means of protection suitable for India ²

¹ *Vide ante Part III Chapter xi*

² *Vide Author's Economic Development of India Vol I Part II Chapter vi*

Means of Protection Suitable for India.

1. FACILITIES IN LAND. In India the market is well organized in towns, and means of transportation are well developed near them. But lands are usually difficult to get near towns, as they belong to many small owners.

2. FACILITIES IN TRANSPORT. The railway freight schedule shows that lower charges are made on raw materials and grains moving from the interior to the ports or the distributing centres, and on manufactured goods from the ports to the interior. This is a handicap for the development of manufacturing industries in the interior.

3. FACILITIES IN CREDIT. The credit system in India is very badly developed,¹ especially in the interior. Development of credit, especially on the lines of the Grossbanken of Germany, will give a tremendous stimulus to industrial development.

4. HOME PURCHASE OF THE GOVERNMENT STORES. The Government buy a huge amount of goods. If they are bought in India, that in itself will give encouragement to some industries.

5. EXPLORATION AND CO-ORDINATION OF THE INDUSTRIAL RESOURCES OF THE COUNTRY. The natural sources in minerals, water-power, etc., are not yet fully discovered. Development in this line will make known the industrial possibilities of the country. (There is little provision for scientific industrial research and for technical training. This will help the people to acquire the necessary qualifications to work up the natural resources. Commercial intelligence in handy, useful forms will make known the markets where raw materials can be obtained, and those where the finished goods can be sold.

6. CO-OPERATIVE CREDIT AND SALES ASSOCIATIONS. Now producers, especially in agricultural and the small industries, cannot wait for want of sufficient credit, and have to sell their products irrespective of market conditions.

¹ *Vide* below Part III, Chapter xv.

Such societies will enable them to hold on and sell at the most profitable market

7 COUNTERVAILING DUTIES When a foreign product obtains undue advantages for export and comes to India, a countervailing duty of the same amount should be imposed on its import in order to protect the home industry from such unfair competition

8 SUBSIDY AND BOUNTY Subsidy is the direct money help which is given to the home industry on its output. The Indian iron and steel industry is given such help. Such help is called bounty when it is not on the total output of the home industry, but only on that portion which is exported to foreign markets

9 The protective tariff has been already dealt with

Industries Suitable for Protection.

The conditions which an industry should satisfy before it is given protection in any form are—

1 That it is an industry which is very useful either because its products are essential for other industries or because its products are widely consumed

2 That it is likely to develop along the line of the law of increasing return that is, the cost of production per unit is likely to diminish with a proper combination of the factors of production

3 That when the size of the business unit increases it is accompanied by a fall in the cost per unit of production that is, the advantages of large scale production should accrue

4 That improvements are likely to make it as efficient as it is in other countries, so that encouragement by the State will be assured during its infancy only, and not while it may be decaying or stationary

5 That there is a big home market for buying raw materials and other necessary things to work them up as also for selling the finished goods on a large scale. This latter condition should be present at least in the beginning

Fair Trade.

Free trade and protection are the two main systems. But there are many intermediate stages as well. Fair trade is a modified system of free trade, in which measures are taken to make the position of home and foreign products the same, e.g. the imposition of a countervailing duty on bounty-fed foreign products or of excise duties on home products in order to neutralize the effects of an import tariff imposed for revenue purposes.

Reciprocity.

Reciprocity is the system in which a country receiving special favour in regard to its exports to another country grants similar favour to its imports from the latter. The *Most Favoured Nation clause* is a means of such reciprocity.

Retaliation.

Retaliation is a tariff war between two countries. Special import duties are levied on the products of a country in order to fight with it against similar discrimination made by it for the products of the country thus retaliating.

Imperial Preference.

Imperial preference is the system in which a hegemony of nations politically connected, e.g. the British Empire, allow preference to goods coming from within the hegemony by reducing the import tariff on such products while they charge the full tariff on goods not so produced. Such tariff may be an export duty also, e.g. Indian export of hides and skins has to pay a 15 per cent duty, but if it is to other parts of the British Empire the duty is only 5 per cent.

CHAPTER XIII

MONEY

We have seen that in order to facilitate exchange transactions barter is split up into two parts, viz, sale and purchase This is done with money and credit which is built up on a reserve of money Thus money is the great basis for all exchange of goods

The Characteristics of Money.

The characteristics of money are—

1 That it is acceptable to all either because it is a useful thing as in crude societies, or because it is obligatory under law to accept it as in modern developed societies

2 That it fully discharges a debt without leaving any obligation which requires settlement afterwards

3 That the character or credit of the person who offers it does not affect its value in any way, and that it is accepted from all provided that it is genuine

4 That the person who receives it has no desire to use it in any way as consumption wealth directly to satisfy his wants but that it is used merely for purposes of exchange

These characteristics are embodied in the following definition of money as given by Walker—' Money is that which passes freely from hand to hand, in full payment for goods, in final discharge of indebtedness, being accepted equally without reference to the character or credit of the person tendering it, and without the intention on the part of the person receiving it himself to consume or enjoy or otherwise use it than by passing it on, sooner or later, in exchange '

Functions of Money.

The functions of money are primarily two

1 It is the *medium of exchange* In all exchange transactions money forms one item and goods the other From

this it follows that money is the *common measure of values*. for when it is the universal medium of exchange every article is exchanged for money, and therefore money not only measures the value of every article, but is also a convenient form of comparing the relative values of the articles.

Thus the prices of articles lead to this comparison. For example, if R.10 can buy one table, or two chairs, or three maunds of wheat, we at once know the relative value of tables, chairs, and wheat, viz., 1 table = 2 chairs = 3 maunds of wheat. For this reason money is also called the *common denominator of values*, since the above relation of values can be expressed thus—

$$\frac{1t}{\text{R.10}} = \frac{2c}{\text{R.10}} = \frac{3w}{\text{R.10}}$$

2. The second function of money is that it is the *store of value*. If a man wants to accumulate wealth the most convenient form is money since, being the common medium of exchange, it can at any moment be converted into wealth by exchanging it for wealth. Its universal demand as an article or its legal position as a means of payment ensures some stability in value, especially in the case of modern money which consists of metals. From this it follows that if payments are to be made in future, people would like to make a contract that they should be made in terms of money and not of any other form of wealth, the value of which may or may not remain as steady as that of money. Therefore, money becomes the *standard of deferred payments*.

Thus there are two primary functions of money and a few subsidiary ones. Taking them all separately, the following are the functions of money¹—

¹ Sometimes four functions are taken, as in the following couplet—

|| Money's a matter of functions four,
|| A medium, a measure, a standard, a store.

- I (1) It is the common medium of exchange
- (2) It is the common measure of values
- (3) It is the common denominator of values
- II (4) It is the store of value
- (5) It is the standard of deferred payments

The money which actually circulates in a country as the common medium of exchange is called the currency. Almost any article which was in universal demand in a community has been used as money. Thus the function of money has been performed by cattle, tobacco, cowries, etc. But in modern times money is always made of some metal, especially the precious metals. The reason is that these latter have got those qualities which are specially desirable in a good currency. The most important quality is its general acceptability. This may be for its own sake or as in modern societies for its having been fixed by law as the medium for all payments. It should be portable that is a small bulk should have great value. It should be durable that is it should not wear away in a short time. It should be fusible so that it can be melted and recoined without loss in value. It should be divisible that is it should not lose in value if subdivided into smaller pieces. It should be cognizable that is its quality or genuineness should be easily recognized and tested.

Legal Tender

The law of a country fixes the coin in which debts may be discharged. This is called the *legal tender*. Legal tender or full legal tender coin is one in which (the debtor has the right to discharge his obligation to an unlimited extent), e.g. the rupee and half rupee coins in India. In most countries there are subsidiary coins in which debt up to a fixed amount can be discharged. These are called *limited legal tender*, e.g. the nickel and copper coins in India.

Free Coinage

A currency is said to have free coinage when anybody can take the bullion to the Mint and can legally get it

minted into coins. For this the Mint may or may not levy a charge. Sometimes, as in the United Kingdom before the late war, no charge is levied for such minting. This is called free and gratuitous coinage. In most cases a charge has to be paid to the Mint. The amount of it may be equal to the actual cost of minting, when it is called brassage. The defect of this system is that there is not likely to be a uniform rate for a long time, for the cost of minting may vary from time to time. In order to avoid this the rate is usually fixed a little higher than the actual cost, so that its fluctuations may not require a frequent alteration of the charge. In such cases the excess of the charge over the actual cost is called seigniorage. If the Government, without any legal authority properly exercised, reduces the quantity of metal to be contained in a coin by law, it is called debasement, e.g. the coins successively issued in the reign of Henry VIII in England.

When the seigniorage charge is very high, that is, when the metallic content of the coin is legally reduced, keeping the face or money value the same, or, which is the same thing, the metallic content is kept intact, but the face value is raised, the coin becomes a *token coin*. Thus the face or money value of a token coin is greater than its intrinsic or metallic value. Obviously in such a case there cannot be free coinage. Or, probably we can say that there may be free coinage but the seigniorage charge is very high. Usually, however, in such cases free coinage is stopped by law, e.g. the rupee coin in India.

Standards of Money.

The standards of metallic money may be various. They can be classified thus—

I. PARALLEL STANDARD. Two or more metals are coined, both of which are full legal tender and freely coined. But the relative value of the coins, that is, the value of one coin in terms of the coin of a different metal, is not regulated by law, and therefore varies with the relative value of the

metals The defect is that **uniformity of prices** is difficult to obtain

2 **SINGLE LEGAL TENDER** Only one metal is coined which is both legal tender and freely coined The defect is that its value is likely to be too great or too small to suit all the exchange transactions of the country

3 **COMPOSITE LEGAL TENDER** Coins of several metals are minted But only one is full legal tender The others are limited legal tender The relative value of the coins of all the metals in use is fixed by law The great advantage is that there are coins of different values to suit the exchange transactions of all values high and low Its defect is that a change in the relative value of the metals different from that of their coins may lead to melting of those coins the metallic value of which is greater than the legal value Thus the system may degenerate into a single standard which will sometimes have coins of one metal sometimes those of another according to the variation in the relative values of the metals That is the currency will consist of coins of that metal which is the cheapest of all the metals used as coins This defect is cured by keeping one coin as the standard being full legal tender and having free coinage The others are token coins and therefore run no risk of being melted nor can they be minted as there is no free coinage This is the system which obtains in most countries

4 **THE GOLD EXCHANGE STANDARD** When in the composite legal tender system the standard weight is also a token coin and has no free coinage but is full legal tender it may develop into the gold exchange standard It is so named when for purposes of foreign transactions the token standard coin can be legally exchanged into a fixed amount of gold In international transactions coin is not accepted as such It is accepted only at its metallic value As the metallic value of a token coin is lower than its money value therefore it is difficult for a country with a token standard coin to meet its external obligations For this purpose it is necessary to allow its convertibility into gold for foreign

payments. Sometimes there is a free gold coin also, in terms of which the value of the token standard money is fixed. India has this system now. Sometimes there is no free gold coin, and the token standard money is to be exchanged for gold bullion. Most of the European countries have adopted this after the late war. This last system, where the token money is full legal tender with a legally fixed rate at which it can be exchanged into gold bullion, is called the Gold Bullion Standard. If the token money is taken as the primary factor in the currency, and its exchangeability into gold as a convenient means of discharging foreign payment, it should be called the Gold Exchange Standard. If the ultimate unit in terms of which the real value of the home currency is to be interpreted is taken as the primary factor, and the token coin as linked with gold bullion for facility in trade and commerce, it should be called the Gold Bullion Standard.

5. MULTIPLE LEGAL TENDER. When coins of two or more metals are full legal tender, freely coined, and have a definite ratio to one another fixed by law, the system is called multiple legal tender. It differs from the parallel standard in that the relative money value of the coins of the different metals is determined by law. It differs from the composite legal tender in that there is more than one metal the coins of which are full legal tender. It differs from the gold exchange or bullion standard in that more than one metal has free coinage. In this system, when there are coins of two metals which are full legal tender, it is called *bimetallism*. When there are more than two metals the coins of which are full legal tender, it is called *symmetallism*. The defects of the system are dealt under Bimetallism.¹

The Quantity Theory of Money.

The value of the currency, like that of any other commodity, is determined by the operation of the forces of demand

¹ *Vide pp. 177-179.*

and supply Demand for currency is represented by the work which money has to perform, thus primarily consists of the number of exchange transactions that are to be effected Supply of currency consists of its quantity in circulation Thus if there is an increase only in the latter the value of money falls, that is, there is a rise in prices On the other hand if its supply is reduced its value rises that is prices fall Thus the value of money varies inversely as its quantity In other words, prices vary directly as the quantity of money in circulation This is known as the quantity theory of money

The theory is however, not so simple in relation to its effect upon prices In its simple form it may be illustrated thus If we assume that all exchange transactions are carried on with money, that each coin circulates only once, that all articles exchanged are of equal value, and that each article changes hands only once (i.e. from the producer to the consumer) then it is apparent that the price of an article will be determined by the quantity of money divided by the number of articles Let us suppose that there are 100 rupee coins in circulation and that each coin circulates only once We also assume that there are 10 articles of equal value and that each article passes directly from the producer to the consumer and therefore, changes hands only once It is apparent that the price of an article will be

R 10 $\left(R \frac{100}{10} \right)$ But the assumptions which we have

made here are not to be found in actual life, which we can approach by giving up one by one the above assumptions Let us now suppose that each coin, instead of circulating only once, circulates twice Thus each coin will perform the work of two coins, in other words, the effective strength of money now is R 200, although there are 100 coins

Therefore, the price of an article becomes R 20 $\left(R \frac{200}{10} \right)$

by the increase in the efficiency or velocity of money If we suppose that each coin circulates once, but that the

number of transactions is raised to 20, it is apparent that the price of an article becomes $R.5 \left(R. \frac{100}{20} \right)$. The number of exchange transactions may increase in either of two ways. It may increase by an increase in the number of articles exchanged, or it may increase by the number of articles remaining the same, but by each article changing hands more than once, e.g. if the same article, instead of passing directly from the manufacturer to the consumer, passes through the hands of three merchants, the number of exchange transactions increases by three, although the number of articles remains the same. Then, again, if of the 10 articles 5 are exchanged for money, and the rest by some other means, say, credit, then so far as money is concerned, the number of exchange transactions becomes reduced. Therefore, the price will rise to $R.20 \left(R. \frac{100}{5} \right)$.

In other words, an expansion of credit raises prices.

We find, therefore, that prices are affected by four factors, viz.—(1) the quantity of money, (2) the efficiency or velocity or rapidity of circulation of money, (3) the volume of exchange transactions, and (4) the amount of credit in operation. The effects of these are—

1. Prices vary directly as the quantity of money.
2. Prices vary directly as the velocity of money.
3. Prices vary inversely as the volume of exchange transactions.

4. Prices vary directly as the amount of credit.

This is represented by the formula

$$P \propto \frac{MV + M^1 V^1}{T}$$

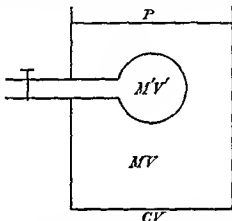
Where P means price, M money, V its rapidity of circulation, M^1 credit, V^1 its circulation, and T the number of exchange transactions. If the number of exchange transactions is split up into the quantity of commodities, and

the number of times each changes hands before each is consumed the formula will be

$$P \propto \frac{MV + M^1 V^1}{CV}$$

where C means the quantity of commodities and V its circulation

This relation of the level of prices to the four factors is happily represented in a diagram ¹



Of a vessel CV is the base which can be expanded at option, MV is the fluid in it P is the level at which MV stands M^1V^1 is air in a bag into which air may be pumped or out of which air may be released. It will be seen that an increase in MV or M^1V^1 pushes up P , while an increase in the base line, CV , brings down P , so that P varies directly as MV and M^1V^1 and inversely as CV .

The level of prices is fixed by the operation of all the forces mentioned above. It may, therefore, happen that an increase in the quantity of money or its circulation is neutralized by a corresponding fall in the amount of credit or its circulation, or an increase in the quantity of either neutralized by a fall in its circulation. Similarly the effect of a change in the volume of transactions may be neutralized

¹ D. A. Barker *Cash and Credit* Chapter III

by a similar change in the currency or credit. Thus in order to find out the effect on prices of a change in any one factor we must look into the changes in all the other factors. The net effect of all changes in currency, credit, and the volume of exchange transactions is reflected only in the level of prices.

When the value of money rises in terms of commodities, money is said to be *appreciated*. This may come about by a fall in its quantity or circulation, or by a variation in the credit or its circulation, and exchange transactions. When money appreciates by a change in its quantity or circulation, it is said to be *deflated*. On the other hand, when the value of money falls in terms of commodities owing to a rise in its quantity or circulation, it is said to be *depreciated* by inflation. Similarly there may be a credit inflation or deflation by an increase or decrease of the amount of credit or its circulation.

The effect of inflation is a rise in prices. This is harmful to all those who have fixed incomes, for they have to pay higher prices for the same standard of consumption. But producers are benefited since the sale price of their products goes up. There is also some effect upon the relation between creditors and debtors in the long run. If the purchasing power of money falls after a debt has been contracted, the debtor has to pay less in commodities in order to discharge the same debt fixed in money. The effects of deflation are the opposite of those of inflation.

Index Numbers.

This variation in the purchasing power of money is of great importance in dealing with economic values over long periods of time. This variation can be measured by what is called *Index Number* or the Tabular Standard. R. Giffen thus explains the objects for which this measurement is undertaken¹—

¹ Index Numbers, *Dictionary of Political Economy*, Article by F. Y. Edgeworth.

1 The fixation of rents and other deferred payments extending over long periods of time, for which it has been desired to have a measure of a more stable sort than money is supposed to be

2 To enable comparisons to be made between the value of money incomes in different places which is often an object of great practical interest to individuals contemplating residential changes, or to governments spending money in widely distant places

3 To enable historians making comparisons between past and present to give an approximate meaning to money expressions in reference to a past age

4 To afford a measure of the extent to which trade and industry have been affected by a variation in prices, and of the correction, if any, which it would be desirable to apply to the currency

The construction of an index number is as follows—

1 A date is chosen the prices in which may be said to be normal. It is called the standard or basic year. Usually it is the average of several years. Sauerbeck takes it for 1867-77, the *Economist* for 1845-50. In India it is 1873

2 Certain representative commodities are selected as the common factors of the basic and the current years. The nature and number of these articles vary according to the purpose for which the index number is constructed

3 The prices of these articles for the basic and the current years are taken and in order to obtain percentage variation in the purchasing power of money, each price for the basic year is represented as 100, and that for the current year as a percentage variation of the former

4 The total for each year is divided by the number of articles, and the average shows the variation in prices from the basic to the current year

Taking, for the sake of simplicity, only five articles, we may illustrate the construction of an index number thus—

	1914		1927	
	Price		Price	
Wheat per maund . . .	R.5	100	R.7-8	150
Clothing per pair of <i>dhoti</i> .	R.2-8	100	R.5	200
Tea per ser . . .	R.2	100	R.2-8	125
Sugar per ser . . .	As.4	100	As.6	150
Shoes per pair . . .	R.3	100	R.7-8	250
Total .		500		875

The average for 1914 is 100. That for 1927 is 175. This shows that what could be bought with R.100 in 1914 can now be bought with R.175; in other words, the general level of prices has gone up by 75 per cent. Or, which is the same thing, the fall in the purchasing power of rupee is 43 per cent.

In constructing index numbers great care should be taken about the accuracy of the data. The prices compared should be correct. The price of each article should be taken for the same quantity and quality in both the years. The choice of the articles must be carefully made to see that they have approximately the same importance in both the periods, and that they serve the purpose in hand. For example, if we want to find out the variation in the purchasing power of the money income of unskilled workers, the articles which they consume should be taken.

Weighting.

From the above it will be seen that some defects are likely to remain in an index number in spite of all possible precaution. Prices vary from place to place; thus for a wide area the index number will have the price of one place or the average of several places. A change in taste, habit,

or fashion will change the importance of an article in the current year from that in the basic year. The most important defect, however, is that if each article is taken as one unit and is represented by 100 in the basic year, the effect on the index number of each of the articles is the same whereas in reality there may be great differences in their position as articles of consumption. For example, in the above illustration, if it is taken to represent the consumption of an Indian unskilled worker the importance of wheat is much greater than that of any of the rest, yet wheat is taken as 100 as also each of the rest. In order to remedy this defect the system of *weighting* is used. According to this system an article is taken as so many articles as its importance deserves. If wheat is ten times as important as tea, *dhoti* five times, sugar three times, and shoes equal to tea, then wheat will be taken as ten articles, *dhoti* as five, sugar as three, and each of tea and shoes as one. Therefore, the index number will be thus—

		1914	1927
Wheat	(10)	1000	1500
<i>Dhoti</i>	(5)	500	1000
Tea	(1)	100	125
Sugar	(3)	300	450
Shoes	(1)	100	250
	<u>(20)</u>	<u>2000</u>	<u>3325</u>

Hence the average of 1914 will be 100, and that of 1927 will be about 166.

It is worthy of note that the object of index numbers is to find out variation in the general level of prices, which is the same thing as variation in the exchange value or purchasing power of money. Therefore, it should be constructed in such a way that the causes of variation of each individual article are not reflected in the index number.

This can be well achieved by taking a large number of articles so that the individual causes pertaining to the articles may neutralize one another. "The larger and more representative the basis of construction, the more likely it is that the change indicated by the index number in the relation between commodities is due, not to the commodities, each of which may be specially affected by some one cause probably different from, or opposed to, that which is operating on some other commodity, but to the money given and taken in exchange. The particular influences are thus likely to be eliminated, and the result, as shown by the index number, to be due to some common cause. It is possible that this common cause may be on the side of commodities ; but the index number tends to lessen the importance to be ascribed to a separate investigation into circumstances of each individual commodity."¹

Gresham's Law.

When coins of the same denomination but of different metallic values circulate in a country Gresham's law comes into operation. According to this law bad money drives out good money from circulation. It means that of two coins of equal face value, but of different metallic values, the coin which has a comparatively lower metallic value remains in circulation, and the coin with higher metallic value goes out of circulation. In other words, the coin which has appreciated as money and depreciated as metal remains in circulation, and the coin which has depreciated as money and appreciated as metal is driven out of circulation. Taking the simple case of a country having two rupee coins of equal money value but having different quantities of metal, it will be seen that the lighter coin can perform the function of money as efficiently as the heavier coin. The law operates because a coin can also be used as metal, and it is so used either for ornamental purposes or for purposes of export. In each case the heavier coin will

¹ L. L. Price, *Money and its Relation to Prices*.

yield greater value than the lighter one. Thus the heavier coins will invariably be chosen for such purposes, and be sent out of circulation, and the lighter coins left in circulation. Thus Gresham's law operates because the coins can be used both as money and as metal, and as the value of the two coins as money is the same, while that as metal is different, discrimination in the latter use takes out the heavier coins. It is called Gresham's law because Gresham, in the reign of Queen Elizabeth, discovered it while attempting to reform English currency, which had been debased by Henry VIII. In order to replace the existing light coins he had issued large quantities of heavy coins, but found that the latter disappeared from circulation.

The law operates not only when there are two coins of equal money value but of different metallic values, but also when there are different coins of different money values in circulation, but with proportionately greater difference in their metallic value. In such cases those coins which have a proportionately higher metallic value than money value will go out of circulation, leaving those with lower metallic value.

LIMITATIONS TO GRESHAM'S LAW There are, however, three limitations to the operation of Gresham's law. (1) If the heavier coin is a token one it will not go out of circulation, inasmuch as its face value is always higher than its metallic value. For by melting or being used as metal the coin loses in value. (2) If there is a rigid control on the issue of all coins, the value of money can be kept up high. If this is so high that it never falls below the metallic value the coins will never be used as metal. This is possible only when free coinage is stopped, for otherwise through the free mint the depreciated metal will be coined and the appreciated metal melted. And as usually only a token coin is restricted in coinage this case in practice will come under (1) above, unless there is a high seigniorage charge restricting free coinage and free melting. (3) In international bimetallism the operation of Gresham's law is

counteracted by the operation of the law of compensatory action.¹

Bimetallism.

Bimetallism, as we have already seen, is that system in which two metals are coined freely, both being of unlimited legal tender, and the relative value of the two coins is fixed by law. All practical attempts to establish a bimetallic system with gold and silver metals have failed in the past. The most famous experiment was that of the Latin Union in the sixties of the last century. Owing to the discovery of silver mines in America the value of silver had kept on falling since the middle of the century. Thus all obligations to be met in gold by a silver-using country increased. At that time England was the only gold-using country, but its trade was so much greater than that of the other countries that its influence was the greatest. To meet this crisis France and most other countries of Western Europe combined into the Latin Union in order to stabilize by law the relative value of gold and silver currencies. The experiment failed, as it was bound to fail, owing to the operation of Gresham's law. As a metal silver depreciated in terms of gold because of increased output. But the relative value of gold and silver coins was fixed by law. Thus silver became depreciated as metal and appreciated as coin, while gold became appreciated as metal and depreciated as coin. Thus it became profitable to melt gold coins and to mint silver coins. As the relative value of gold and silver as metals was determined by world conditions over which the Latin Union had no control, the process of melting gold coins and minting silver coins went on till the former disappeared from circulation, and the latter only remained as money. The great defect of bimetallism is that with the fluctuations in the relative value of the two metals the composition of the standard money changes as well, always leaving the

¹ *Vide* below, "Law of Compensatory Action."

depreciated metal in circulation and driving out the appreciated metal. Thus the system tends to become an alternating standard, sometimes this metal being used as money, sometimes the other, according as the relative value of the one or the other goes down.

The reason for this is that there may be two values of the two coins: one as money, and the other as metal, the former of which is determined by the law of the bimetallic country, the latter by the conditions of demand and supply all over the world. This happens in the case of national bimetallism: that is, in the case when one or a few countries adopt bimetallism. But if all countries of the world combine together in having the bimetallic system, in other words if there is international bimetallism, then there is a check to the operation of Gresham's law by the operation of another law, viz. the law of compensatory action.

THE LAW OF COMPENSATORY ACTION. In international bimetallism the world fixes by law the relative value of the two coins as money, and the world is also the market where the relative value of gold and silver as metals is fixed. In this case, when there is a variation in the two values, i.e. as money and metal of gold and silver, there is a corrective which works automatically through the free mint. If silver as metal depreciates and gold as metal appreciates, then silver coins will be minted and gold coins melted. This process will go on all over the world on an extensive scale, all countries having bimetallism. But this will lead to a great demand for silver to be used as coins, thus substantially reducing the supply of silver as metal. On the other hand, by melting gold coins, the supply of gold will substantially increase. Thus the diminished supply of silver as metal and the increased supply of gold as metal will raise the relative value of silver in terms of gold. Thus the former depreciation of silver and appreciation of gold as metals will be corrected, and the relative value of the two metals will be brought back to the same position.

as their relative value as coins. This is known as the compensatory action of international bimetallism. It does not operate in national bimetallism because the demand of the depreciated metal for minting and the supply of the appreciated metal by melting, being confined to one or a few countries, do not affect the supply of the metals in the world market, whereas in international bimetallism the area over which the operation of such minting and melting goes on affecting the supply of the metals is co-extensive with the area in which the relative value of the metals as such is determined.

The Latin Union finally gave up bimetallism and adopted the gold currency. But India, which found gold currency too costly, adopted in 1893 a system which developed early in this century into a novel system called the gold exchange standard.¹

Paper Money.

In modern countries the currency consists not only of metallic coins but also of paper. Paper money is a certificate from the central bank or the government, which has been made legal tender by the law of the country. It circulates freely, and obtains all the essential features of money because of the confidence in the bank or the government. Paper money consists of the currency notes issued by the Government of the country as in India, or, more usually, by the central bank of the country under the authority of the government.

CONVERTIBLE AND INCONVERTIBLE PAPER. Such notes may be convertible or inconvertible. Convertible notes are those which must be exchanged for metallic coins by the issuing authority whenever demanded by the holder of the notes. Inconvertible notes are those which cannot be so exchanged on demand. The difference lies in convertibility on demand.

Convertible notes may be divided into covered and

¹ *Vide* Part III, Chapter XVIII.

fiduciary or uncovered. In order to ensure the convertibility of notes into cash whenever demanded by their holder, the issuing authority must keep a reserve of coins against the notes in circulation. As the notes are legal tender money and are convenient to be used, the amount of cash necessary for such convertibility is not that of the notes in circulation. The exact amount varies from country to country according to the needs of each. Of the total note circulation of a country the amount for which coins are kept in reserve is called *covered*, and that for which there is no such reserve is called *fiduciary* or *uncovered*. It should be noted that this division is in regard to the whole note issue. No particular note in circulation can be pointed out as covered or fiduciary. If, as in India, there are in circulation notes worth about R 190 crores, and the coins and the precious metals in the paper currency reserve are about R 105 crores, notes worth R 105 crores are to be called covered, and those worth R 85 crores fiduciary or uncovered.

It is apparent that there cannot be any inflation of the convertible notes, and therefore any depreciation. For, if there is an excess issue of such notes, they will tend to fall in value in terms of coins. But as the issuing authority is by law bound to give the fixed amount of coins for each note, nobody will exchange a note for less amount in the market when a higher amount is available from the issuing authority. In this way the excess amount will return to the issuing authority. But as inconvertible notes are not convertible into coins on demand they may be issued in excess and yet remain in circulation. Thus their value in terms of coins may fall, that is, there may be inflation, and therefore depreciation. This will continue to be so till convertibility is restored. Of course, this does not mean that inconvertible notes will necessarily be depreciated. Their quantity may be so regulated that they are never in excess of the requirements of the country, in which case their value may remain at par, that is, equivalent to the

legal amount of coins. The best way, however, to ensure this is to make them convertible, so that by the automatic operation of the system of conversion into coins, their quantity will be prevented from exceeding their required number.

Indian Paper Currency.

The Indian paper currency is wholly convertible, and consists of notes of the denominations of R.5, 10, 50, 100, 1,000, and 10,000. Notes of the value of R. 5, 10, 50, and 100 have universal circulation in India, whereas those of R.1,000 and 10,000 are legally convertible into cash in their own circles. There are seven circles, viz., Calcutta, Cawnpore, Lahore, Bombay, Karachi, Madras, and Rangoon. During the war notes of the denominations of R.1 and R.2½ were issued, of which the former became very popular. The latter was discontinued after a short time and the former in 1926. The total gross note circulation is now R.190 crores, of which about R.105 crores are covered and R.85 crores fiduciary. The *gross circulation* consists of the total notes printed by the Government. The *net circulation* is the former *minus* those held by the Government in its Treasuries. The *active circulation* is that which is actually circulating, and is obtained by subtracting the notes held by the Imperial Bank in its head offices from the net circulation. The net circulation is about R.177 crores, and the active circulation about R.157 crores.

CHAPTER XIV

CREDIT

AN exchange transaction can be carried on in either of two ways. The cash payment for the delivery of goods may be made at once in which case the transaction becomes a sale. Or the payment may be partially or wholly postponed to a future date in which case the transaction is a contract, and is based upon credit. Thus, in credit, the fundamental idea is trust or confidence. Because there is this confidence, therefore there is also deferred payment. The payment may be deferred in the case of retail as also wholesale transactions. But the great difference between the two is that in retail transaction the payment is received by the seller at the end of the period whereas in wholesale transaction it is done at once, although in both cases the payment by the buyer is deferred. This can happen through the use of *hundis* or bills of exchange.

Bills of Exchange.

When a credit transaction takes place in wholesale trade the seller draws a *hundi* upon the buyer, calling upon him to make the payment after a specified time. Thus the seller—the creditor—is the *drawer* of the *hundi*, and the buyer—the debtor—is the *drawee*.¹ After the bill is drawn up, it is sent to the debtor who writes across it accepting the *hundi*. After acceptance the drawee is called the *acceptor*.

DISCOUNTING A BILL (The real effect of a credit transaction is that the seller lends money to the buyer for the specified time. But the seller is not in a position to wait till the maturity of the *hundi*, that is, the time when it

¹ In business this is the usual form. In private transactions especially private loans the form is different. The debtor writes a document promising to the creditor payment on demand. This is called a *promissory note*.

falls due.) He has the choice of two alternatives to get the amount. (He may discount the *hundi* with a bank, or he may make payment to his creditor by endorsing and passing on the *hundi*.) Discounting really means selling it to a bank. (Banks buy or discount *hundi* at a price which is its face value *minus* the rate of discount for the period for which the *hundi* has yet to run.) Thus if a *hundi* for R.100 has to run for three months, and if it is discounted at once with a bank whose rate of discount is 6 per cent, the price will be the present worth, that is, R.98 as.8. If it is discounted after one month its price will be R.99. (Thus the longer the period the *hundi* has already run before maturity the higher will be its price, for the shorter will be the period for which its buyer will have to wait for maturity.)

(ENDORISING A BILL. The other alternative for the drawer of the *hundi* is to endorse it and pass it on to his creditor. In this way the *hundi* keeps on circulating, thereby facilitating exchange transactions. In this capacity it displaces money from circulation by taking up exchange transactions which would otherwise have been carried on with money. This economizes the use of money, and introduces a cheaper medium of exchange.) But inasmuch as the *hundi* must on maturity be paid, the system does not do away with money. But all the intervening exchange transactions done by it are purely the effect of the credit instrument. A defect in such circulation is that the subsequent transactions may not be of such value as to be suitable for payment by the *hundi*, which was drawn up independently and, therefore, whose value is likely to be different from that of the subsequent transactions. On the other hand, the great merit of such transactions is that the security of the *hundi* increases with the number of hands through which it passes. Without any circulation the *hundi* has two names on it, viz., those of the drawer and the acceptor. But if it has circulated several times it bears the names of all those through whose hands it has passed. Thus if the acceptor fails to make payment on maturity the ultimate holder can

recover the sum from the person who gave it to him, and failing him, from any one of the other signatories

Is Credit Capital ?

An important question is whether or not credit is capital (From the point of view of the individual there is no doubt that it is capital for having credit he can borrow money and augment the capital in his business.) Without credit it would have been impossible for him to command this capital (But from the social point of view credit cannot be regarded as capital. For credit really means postponing the payment, or, in other words, the capacity to borrow.) This is in essence transferring the command over capital from one to another person in the community (It does not increase the total capital of a country, but transfers it from those who are less able to use it to those who are better able to do so.) We may illustrate this by taking the example of a bank—the best organization of credit. The depositors are really the owner of capital. But they cannot invest or otherwise utilize it for productive purposes. The reasons may be various. They may not have the ability to do so, or their stock of capital or saving may be too small, or they may be otherwise too busy to do so. Therefore, they are glad to get the low rate which the bank offers them. Thus capital accumulates with the bank, and is lent to those who can utilize it better, and therefore pay a higher rate to the bank. Thus there is a transfer of the right to use capital from less to more efficient hands. As such it does not increase the total capital of the country. There is, however, a sense in which credit may be said to increase the capital—the effective capital. It may be said that credit organizes and brings together the dispersed capital of the country into the bank. But for this credit institution so much of the existing capital would not have been devoted to business. Thus credit does not directly increase the potential or total capital, but it increases the effective capital which is utilized as such.

Although credit does not directly increase the capital, it does so indirectly. One effect of credit is to transfer the use of capital from less to more efficient hands. This results in increased production, which tends to increase saving or capital. The use of credit through, for example, discounting increases, the total number of exchange transactions which could not otherwise be carried on. This naturally increases the total output, for now the sale is also greater. Increased output helps to secure all the advantages of division of labour, use of machinery, and large scale of production. This makes production more efficient than before. Also credit directly helps production by moving capital into efficient hands. Thus the indirect effect of credit is increased production. The proof of this is to be found in a collapse of credit, which disorganizes production, and therefore reduces the output.

How Credit Increases Production.

The various ways in which credit indirectly increases production, and therefore capital, may be summarized thus—

1. By credit capital is more efficiently used for purposes of production. Thus, whenever there is boom in a trade the discount of bills or *hundis* increases.

2. The amount of capital available for production increases. Professional men otherwise too busy, poor men with too small savings, and those with patrimony unwilling or incapable to use their capital, lend it through the bank to those who can utilize it for production.

3. Credit extends the scope for free contract and competition. Without credit those who are able to utilize capital but have not got it would have been shut out from the field of productive work. With credit these efficient men can come into the field, and therefore increase production.

4. John Stuart Mill's proposition that "industry is limited by capital, but seldom comes up to that limit"

is yet true in life. It means that the total capital of a country fixes the maximum limit of its industrial (i.e. business) expansion. This is so because capital is now an essential factor of production. But industrial expansion rarely comes up to that limit because a portion is always dispersed over the country and is ineffective or less effective than it otherwise would have been. (Credit moves this expansion nearer to the limit set by capital by concentrating the dispersed capital and making it more efficient. This increases both effective capital and production.)

5 Bank money ¹ is purely the creation of credit and it helps production as well as cash does. The amount of this loanable capital or money market money is very large in all countries where credit is developed and organized.

Banking

We have been mentioning the bank for some time and may conveniently study here its operations. The functions of a bank may be said to be three viz (1) to accept deposit (2) to issue notes where permitted to do so by law and (3) to grant loans.

THE FUNCTIONS OF A BANK (1) The bank accepts money from its customers to be deposited with it and it pays interest the rate of which varies according to the length of time for which notice is required to withdraw the deposit. (2) When the bank is authorized by law to issue notes the second function is performed by it. From the point of view of the bank itself there is little difference between these two functions. Both make the bank liable to pay cash in the first case when a cheque is drawn against the deposit and presented and in the second when the note is presented for encashment. (3) The third function is to advance money as loan. There are various ways in which the bank uses the sums which come to it as capital of the bank the reserve and the deposit. A portion is required by law to be invested in safe securities usually fixed by

¹ See later Banking

the Government. This measure is taken to ensure the safety of at least a part of the bank's assets. The income from such investment is naturally small. The bank may itself invest a part of its assets in other securities in order to keep on hand things which can always be converted into cash, as most of the good securities have an assured market. Another portion of the assets is kept as cash in order to meet all demands for it on the part of the depositors who want to withdraw money from the bank. The remainder—which is the largest portion of its assets—is given out as loans. As the amount of the cash is very much smaller than the deposits or the liabilities of the bank, the loans are so distributed that they become due, and are renewed from day to day, so that in a time of panic the bank can put itself in possession of a large amount of cash only by reducing the renewal of loans. The gross profit of the bank consists of the interest which it earns on these loans as also on the securities. The net profit consists of this sum *minus* the interest paid on deposits and the cost of management, etc.

BANK LOANS. The loan given by the bank takes various forms.

1. It may be in the form of cash given to the borrower. This is rather rare in banking as the bank is primarily a credit institution, and so economizes in the use of cash.

2. It may be in the form of discounting, that is, buying bills or *hundis* at their present worth, and holding them till maturity. For this purpose the bank has its discount rate, which is slightly lower than the interest rate, since the former is deducted at the time of giving loan. On discounting the price of the *hundi* may be paid in cash, but is more frequently done by increasing the deposit of the seller of the *hundi* by the amount of its price, against which he can draw cheques.

3. Finally, advances may be made by what is called book-credit. No money in this case passes between the parties, but on the assets side of the bank the loan is shown

and on the liability side the same is entered as the deposit of the borrower. Thus, a loan is given to that is, capital is obtained by, the borrower without any cash being depleted out of the bank's reserve. This is what is called loanable capital, which is purely the creation of the bank. Its amount depends entirely upon the discretion of the bank. The bank undertakes great risk, for it is really increasing its liabilities without increasing its cash whereas the borrower may at any time withdraw the amount of this fictitious deposit. But in a well organized credit market very little of this deposit is actually withdrawn in cash, the bulk of it being withdrawn by cheque which, as we shall see, does not involve any cash transaction owing to the system of clearing houses. The better organized the money market of a country is, the greater is the economy in the use of cash, and therefore the greater is amount of loans given in the form of book-credit.

A BANK'S BALANCE SHEET The foregoing items of the bank's liabilities and assets may be thus shown in its balance sheet—

BALANCE SHEET¹

LIABILITIES		ASSETS	
	R		R
Capital	1 00 00 000	Securities	1 00 00 000
Reserve	25 00 000	Loans	5 50 00 000
Deposits	20 00 00 000	(i) Cash	25 00 000
Miscellaneous	25 00 000	(ii) Book-credit	5 25 00 000
		Discount	8 00 00 000
		Cash	7 00 00 000
		(i) In hand	1 00 00 000
		(ii) In bank	6 00 00 000
	<u>R 21 50 00 000</u>		<u>R 21 50 00 000</u>

Capital comes on the side of liability because in accounts a business must always be separated from its owner. Thus the bank is indebted to its owners to the extent of the capital. This capital is often shown in three forms. "Authorized capital" is that which by law the bank is authorized to raise from its shareholders. "Subscribed capital" is that

¹ It illustrates the principle and does not give the actual details of any bank.

portion of authorized capital which was offered and taken up by the shareholders. But they are not required to pay the full amount of the share capital at once. It is usually called in or paid up in instalments. This amount is called "paid-up capital." Thus the bank may have an authorized capital of R.10,00,00,000. But let us suppose that shares worth R.5,00,00,000 were offered and subscribed by the shareholders, each share being of R.500, which is to be paid by instalments. Let us again suppose that out of R.500 for each share, R.100 has actually been called in or paid up. Then the authorized capital of the bank is R.10,00,00,000, the subscribed capital R.5,00,00,000, and the paid-up capital R.1,00,00,000. It is obvious that the liability of the bank to the shareholders is to the extent of the capital actually received by it, that is, it consists of the paid-up capital.

The Rest or Reserve is the undivided profit, that is, the profit which has been made by the bank but has not as yet been distributed to the shareholders or is kept as reserve for emergency or improvement of the bank. This is a liability inasmuch as the bank holds it on behalf of its shareholders to whom the sum belongs.

The other items have all been explained before. Cash may be kept in the bank or a portion that is required for the daily transaction—a sort of till money—is kept, and the rest is kept in the central bank of the country.

The Clearing House System.

We have seen that a *hundi* or a cheque circulates from hand to hand, and thus does something more than merely settle the original transaction out of which it arose. Many intermediate transactions are accomplished. Thus it economizes the use of cash. The clearing house system carries this economy yet further.

The principle of the system is that claims to receive payment are set off against counter-claims to make payment. Thus, if the former be of R.50,000 and the latter

of R 48,000, money is not used to the extent of R 98 000 but only to that of R 2,000. The stages of development of the clearing house may roughly be divided into three—

1 In the least developed system each bank presents to the others the list of payments to be received from the latter, and after a specified time, say, a fortnight, settlement is made by paying only the difference between the claims and counter-claims subsisting between any two banks. But this involves each bank meeting all the others separately. To avoid this expense, labour, and trouble, the second stage was developed.

2 In this all the banks meet at a common place, the clearing house, where each bank presents to all the others its claims to receive money, that is, the cheques which it holds on others, and the others also present their claims upon this bank. Thus the whole work of presentation of claims and counter claims by all the banks is done in one room and at one time. This saves a good deal of expense and labour. But even now the final balance between any two banks is settled by actual payment of cash.

3 In the final stage cash is altogether eliminated. Each bank makes a list of its claims on all other banks, and obtains the list of claims on it by other banks. This gives a list showing the net claim by or against it in regard to each of the other banks. Now a final list is made showing the net claim by it on other banks, as also that on it by the others. A balance is struck between these items showing the total net claim by or against it in regard to all the other banks. It is apparent that the net amount to be received by some banks must be equal to the net amount to be paid by the rest of the banks. All the banks keep accounts with a central bank in which there is a separate account in the name of the clearing house itself. All those banks which have to make payment pay by cheque on the central bank to the clearing house, and the clearing house pays those banks which have to receive payment by cheque on the central bank. Thus the final adjustment is

made only by entries in the books of the central bank. In this way payment of huge sums of money is made without the use of any cash at all. Thus from the first drawing of a *hundi* or a cheque to its final payment cash is never used.

It is evident that the advantages obtained from the clearing house depend upon the economy in the use of cash. This depends upon the following factors—

1. The completeness of the chain of adjustment. If there is a break anywhere cash will have to be used at that point.

2. The magnitude of the amount thus settled. The greater the amount the greater will be the economy in the use of cash.

3. The number of *hundis* and cheques presented. The greater their number the greater is the amount of exchange transactions, that is, the trade and production of the country, that are benefited by the system.

4. The number of the parties making and receiving presentations through the clearing house. If all persons make payment by cheques, and if all banks are members of the clearing house, the use of cash is very much reduced.

5. The difficulties of separate presentation which would be necessary in the absence of the clearing house. If these difficulties be very great the advantages derived from the system increase to the same extent.

The amount cleared annually in India¹ through the banks is about one thousand and eight hundred crores of rupees (R.1,800,00,00,000)² and that in the United Kingdom about one hundred thousand millions of pounds sterling (£100,000,000,000).

¹ Calcutta, Bombay, Madras, Karachi, and a few other places.

² In 1920-21 the figure was a little less than R.3,000 crores.

CHAPTER XV

SYSTEMS OF BANKING

HAVING studied the principles of banking we shall, in this chapter, study the actual systems of banking obtaining in some of the important countries of the world. Of these the most important is that in the United Kingdom which, like its Parliament, has given the model to the world, although originally it borrowed it from Amsterdam.

The United Kingdom.

The Bank of England is now the central bank of the English money market. It was founded in 1694 to deal in bullion and bills, to issue notes, and to make advances on the security of merchandise. Its present importance is due to the facts that the only note circulation which is legal tender in England and Wales is issued by it, that it is the banker of the Government, and that it is the banker of the other banks.

The Importance of the Bank of England.

The reasons why the Bank of England holds such a unique position in the banking system of the United Kingdom are—

1. The rate of discount of the Bank of England—called the Bank Rate—is the regulator of the current or market rate of discount. Formerly the Bank used to compete with the joint stock and other banks in discounting bills. Now it does so only when the latter fail to do so, or does re-discounting with them when they want funds in times of difficulty. As it is the Government's bank, and the bank in which all the other banks keep their reserves, its rate of discount indicates the final reserve in the country. If its rate is high it means that the country's reserve is small; if it is low the latter is great. As ultimately the other

banks are dependent on its reserve, their rate—that is, the current or market rate—is regulated by the Bank Rate.

2. The Bank holds all the bullion reserve of the country because (a) it is the Government and the bankers' bank and (b) by law it is bound to give £3 17s. 9d. for one ounce of gold (the mint worth of which is £3 17s. 10½d.). Thus whenever cash is wanted for the purpose of export or any other purpose, all demands come to the Bank which holds the final reserve, and also is bound to give cash at a legally fixed rate.

3. As the apex or final bank it receives a large amount of deposits, for which it pays no interest. These can be withdrawn on demand.

4. When in a crisis all other banks fail or are unwilling to lend or discount it is the ultimate resort of all who urgently want money, but cannot find it elsewhere.

THE BANK CHARTER ACT. The working of the Bank is regulated by the Bank Charter Act of 1844, and some healthy traditions which have grown round it. The Bank Charter Act was the result of a long controversy, the main features of which must be understood before we can proceed to the study of the Act itself. The controversy mainly centred round the question whether the note issue should be regarded as currency or purely as a part of the banking business. The two opposite principles were the *currency theory* and the *banking theory*. Both agreed that the coins formed part of the currency, and their issue should be regulated by the Government, and that the cheques drawn against deposits were not currency, and therefore should not be so regulated. But with regard to the note issue there was a conflict of opinion. The supporters of the currency theory argued that "unless issuers of notes vigilantly observe the causes which influence the influx or efflux of coin, and regulate their issues of paper accordingly, there is danger that the value of the paper will not correspond with the value of the coin." The defects of the theory are—(1) that a too rigid restriction on the issue

of notes may have a mischievous effect in special cases. For example, England imports grain and cotton which are seasonal, and exports manufactures which are produced throughout the year. Thus at some seasons of the year the imports will exceed the exports, and the excess must be paid by export of cash reserve, thus suddenly reducing the amount of the currency. This will bring about violent fluctuations in prices if the note issue is not expanded to fill up the gap made by the efflux of bullion. When later in the year the exports exceed the imports, the bullion returns and the notes may be withdrawn. (2) That not only bank notes but bank deposits also serve as substitutes for specie. Cheques may circulate and perform the same function as notes when specie has been exported. The bank incurs the same kind of liability by issuing notes as by allowing cheques to be drawn upon it.

On the other hand the supporters of the banking theory, who had amongst them most of the reputed economists of the time e.g. Adam Smith and Ricardo, argued that if convertibility on demand is insisted upon, there cannot be an excess issue of notes by the bank. For with an excess issue the notes will depreciate, that is, will be exchanged at a less value in coins than the face value, and a holder will not part with notes for less value as the bank is bound to pay the full value. So, he will take them to the bank and get cash, thus reducing the notes in circulation, and increasing the cash in circulation. The defect of the banking theory is that the danger lies exactly in this return of the notes to the bank. When notes are issued in excess prices rise, and the market of the country becomes a good one to sell in and a bad one to buy from. Thus imports increase and exports diminish, leaving a debt balance which is to be met by the efflux of specie. In this way the internal currency consists more of notes than of coins, and the convertibility of the notes is threatened. For example, if originally the currency consisted of coins worth R 300 crores and notes worth R 180 crores, of which R 100

crores was covered and R.80 crores fiduciary, and if additional notes worth R.200 crores are issued, the export of specie will, other things remaining the same¹, be to the extent of R.200 crores. Thus now the composition of the circulation will be R.100 crores of coins and R.380 crores of notes, of which R.100 crores will be covered and R.280 crores fiduciary. If in this way the notes get depreciated and returned to the bank, it will be unable to convert them into cash. This shows that so far as the amount of the circulation is concerned, a bank is undoubtedly an instrument in the hands of the public, not being able, in the above illustration, to put in more as the currency than a total of R.480 crores. But so far as the composition of the currency is concerned it is not so, being able to put in more of notes and less of coins. And in judging whether or not the note issue is excessive the composition is the determining factor.

The Bank Charter Act of 1844 was based on the currency theory and, therefore, rigidly regulates the issue of notes. It separated the banking from the issuing department, and laid down the following provisions—

The maximum fiduciary notes of the Bank of England shall be £14 millions. Every note issued in excess of this amount shall be fully covered by cash reserve. There were a few other banks also issuing notes. Their issue also was regulated. But it was provided that if any of these banks gave up their issue of notes, the Bank of England would be able to increase its fiduciary amount by two-thirds of the fiduciary notes of such banks. Thus the present fiduciary issue of the Bank is £19 $\frac{3}{4}$ millions.

The system is too rigid and inflexible, and broke down several times in the face of crisis. The Act might have ruined the economic prosperity of the country, but for the tremendous development of the bill or cheque system, which has taken the place of what formerly was occupied by the notes.

¹ See *The Limitations of the Quantity Theory of Money*.

Besides the Bank of England there are many other banks—about thirty in number—which actively compete in the market in the business of discounting. They have no right to issue notes. They have branches all over the country, some—the exchange banks—with branches only outside the country, especially in India and the Far East.

The Bank of France.

The Bank of France—the Banque de France—was instituted in 1800. In France the use of cheques is very limited in spite of the efforts of the Bank. As contrasted with the Bank of England, the Bank of France attempts to keep an even rate of discount in order to enable business men to borrow at a uniform rate. This gives a tolerable certainty about the charge for the use of money. But in times of great efflux of specie the Bank may find difficulties to meet the demand for specie. Hence it has the option to pay its obligations either in gold or in silver of legal tender. This helps it to maintain a stable rate of discount, but is a great source of anxiety and trouble to foreign trade as it is not sure of the particular specie which it may require in order to meet its foreign obligations.

The Bank of Germany.

The Bank of Germany—the Reichsbank—was formed in 1872. It also aims especially at a stable rate of discount. The regulation of its note issue has one special feature which is an improvement upon the English system. The legal limit of fiduciary issue is £22 millions, and it is permitted to add the full amount of the fiduciary issue of other banks giving up their note issue. In times of difficulty the Bank is permitted to exceed the limit on payment of a tax of 5 per cent per annum on the total excess issue. This permits flexibility, and yet provides for indiscriminate excess by the penalty imposed. In no case, however, can the cash reserve fall below one-third of the total issue, that is, at least one third must always be covered and the

maximum possible issue of fiduciary notes can never exceed two-thirds of the total note circulation. Owing to the paucity of other banks in the beginning the work of discounting bills on the part of the Bank is very heavy.

The Banks of the United States of America.

In America there is a very large number of banks each operating within a limited area. This is so because of the vastness of the country and, in the beginning, the difficulties of communication. A large number of these banks were organized in 1864 into the National Banking System. By this the constituent banks were allowed to issue notes under national supervision, with the deposit of the U.S.A. Government bonds as security, and with specific limitations of the right of each bank to issue notes. Formerly there was no central institution like the Bank of England, the Banque de France, or the Reichsbank. The smaller banks kept balances with bigger ones, and these in their turn with the more important ones. Thus there was a system in which no one in particular was responsible for the business of the whole country. The system broke down on the crisis of 1907. The Federal Reserve Act was passed in 1913. The member banks are to keep their reserves as deposits in one of the twelve central banks called the Federal Reserve Banks, one of which is established in each specified area. All members of the National Banking system were compelled to be members of the Federal Reserve System, and others are encouraged to join. All the Federal Reserve Banks are under the control of the Federal Reserve Board. Each Federal Reserve Bank can issue notes against definite securities which have an easy market, and 40 per cent of the note circulation must be covered by cash reserve. If it falls below the limit a steeply graduated tax is imposed on the deficit, the rate of the tax increasing with the fall of the reserve below 40 per cent. A Federal Reserve Bank does the working of clearing house for its member banks, and the clearing among the twelve Federal Reserve Banks

is done through the Gold Settlement Fund at Washington. The Federal Reserve System is also used as banker to the Government.

The Bank of Japan.

The banking system was modelled in 1872 on the National Banking System of America but the same difficulties led to the foundation of the Bank of Japan in 1883. The right of note issue solely vests in this Bank. It is the central bank of Japan and is banker of the Government and the other banks.

We have dealt with the central banking system in each of the above countries and left out the ordinary and industrial banks. The normal work of discounting is done by the former and the development of industries is the object of the latter.

A Comparison of European and American Banking.

Comparing the systems in Europe and America we note some features of banking development in different countries.

1. Taking the English and the Continental systems, we see that the United Kingdom invests most of its banking resources and keeps small cash reserve. This makes for efficiency inasmuch as the idle cash is reduced to its minimum. But this works against safety, since at the time of crisis sufficient cash may not be available. So the United Kingdom has to be alert, and the money market there is influenced by forces working in any part of the world. Another effect is that whenever there is the prospect of a change in the existing condition, immediately the rate of discount changes. For example, if there is chance of an increase in the export of specie the rate rises. This has the twofold effect of discouraging people from taking out specie unless it is essential, and therefore worth paying the higher price, and of encouraging people to bring in money to earn the higher rate. Thus the rate keeps on

continually moving. On the Continent, on the other hand, the banking system has cared more for safety than for efficiency, and therefore has kept up a stable rate. Safety being the first consideration a large reserve is always kept, and therefore the need for a change in the rate is not felt till the reserve falls to a low point.

2. Taking the English and American systems, we find that in the United Kingdom there is a small number of banks each with a large number of branches, while in the United States there is a large number of banks each with a small number of branches. The result is that in the former country clearing among a bank and its branches is done within the bank itself, and the clearing house does the work among the independent banks. Therefore, although the amount of real clearing is large, it is only partially shown in the clearing house. In America the branch system not having developed, all the numerous banks clear through the Federal Reserve Banks and these, in their turn, through the Gold Settlement Fund. This explains the huge amount of formal clearing done in America.

3. Taking the European and the American systems, we find that in Europe each country has one central bank, which alone issues notes, and which is the banker to the government and to the other banks. Hence there is a unity of control over the currency and credit of each country. In America, on the other hand, up to 1913, there was no unity at all. Since 1913 there are twelve separate central banks, each working in all the three capacities of issuing notes, working for the Government, and for the other banks. This is so to provide for the differences in the economic development of the vast country, and as the country is developing towards a uniform standard the centralization of control is increasing. The Federal Reserve Banks are generally controlled by the Federal Reserve Board.

4. Taking the development in the regulation for the note issue, we find four stages, the last of which has not as yet (1926) been put into operation. The first is that of the

United Kingdom, where there is a rigid limitation of the fiduciary issue of notes beyond which the Bank of England can never pass without suspension of the Bank Charter Act. The second stage is to be found in Germany, where the legal limit can be exceeded by paying a uniform tax on the excess issue. The third stage is in the United States of America, where the tax is steeply graduated, the rate becoming greater with the amount of the excess issue thus discouraging any large excess when a smaller excess meets the situation. But here also there remains a temptation on the part of the bank to issue notes in excess pay the tax and charge a higher rate of discount. Thus to make a profit the bank may be tempted to issue notes in excess. The system proposed for the Central Reserve Bank of India meets this objection by providing that the tax will be graduated and charged in excess of the current discount rate of the Bank. The minimum cash reserve is 40 per cent and the proposal is that when the cash reserve falls below the limit "a tax shall be paid to the Government equal to the Bank's discount rate in force at the particular period *plus* 1 per cent per annum when the gold and gold securities reserve against the notes is less than 40 per cent but more than $32\frac{1}{2}$ per cent, and an additional $1\frac{1}{2}$ per cent per annum in respect of each $2\frac{1}{2}$ per cent decrease or part thereof by which the reserve falls below $32\frac{1}{2}$. Provided that the tax shall in no event be less than 6 per cent"¹

Banking in India.

The banks in India may be classified under the following heads—the Imperial Bank of India, the joint stock banks, the exchange banks, the Government treasuries, the indigenous banks, the co operative banks, the savings banks, and the proposed Central Reserve Bank.

THE IMPERIAL BANK OF INDIA The Imperial Bank of

¹ *Report of the Royal Commission on Indian Currency and Exchange* 1926 paragraph 153

India was constituted in January, 1921, by the Act of 1920. It arose out of an amalgamation of the three Presidency Banks of Bengal, Bombay, and Madras. The Bank of Bengal had been started in 1806.¹ Up to 1876 the Government held some share and exercised control. Formerly, it had the right of note issue, which was taken away in 1862, and, instead, it had the free use of the Government balances till 1876, when the Independent Treasury System was inaugurated. Since then a portion of the Government balance was kept with the Bank. The Bank of Bombay was started in 1840. A portion of its capital was also subscribed by the Government, which had some control in its management. Owing to the extensive forgeries of 1848-51 it had to close down in 1868. It was re-started in 1870.² The Bank of Madras was started in 1843 out of the old Government bank. Up to 1876 the Government held some shares and exercised control on its management. In 1921, when the three Presidency Banks were amalgamated into the Imperial Bank of India their financial position was as given below—

	In lacs (1,00,000) of rupees			
	Bengal	Bombay	Madras	Total
Capital	200	100	75	375
Reserves	210	120	48	378
Public or Government				
Deposits	434	350	209	993
Private Deposits . . .	3,474	2,749	1,579	7,802
Cash	1,221	876	506	2,603

The total authorized share capital of the Imperial Bank is R.11½ crores. The paid-up capital is R.5,62,50,000. The reserve fund is R.3,45,00,000. Public deposits are

¹ Its original name was the Bank of Calcutta. In 1809 it was changed into the Bank of Bengal.

² The New Bank of Bombay. The name was changed into the Bank of Bombay in 1876.

R 10 crores private deposits R 77 crores and cash R 27 crores

A central board was created to control its working. It was to open one hundred new branches within five years the location of twenty five of which was to be determined by the Government.

The more important business of the Bank consists of (1) advancing money on certain specified securities (2) drawing accepting discounting buying and selling of *hundis* (3) investing its funds in certain specified securities (4) buying and selling gold and silver (5) receiving deposits (6) receiving securities for safe custody and (7) borrowing money in India. It is not permitted to (1) grant loan for more than six months at a time (2) grant loan to any one borrower beyond a certain limit and (3) discount bills without security except on the personal security of two responsible persons or firms.

The formation of the Imperial Bank of India is a step towards banking centralization. But it is not yet nor probably was it meant to be the central bank of India. Such a bank must have full control over the currency and credit of the country. Now the currency is in the hands of the Government of India and the credit is partly regulated by it also. The main object of the Bank is to organize credit in the country and develop banking habit among the people. Unlike the central bank in other countries it actively participates in the work of discounting and competes with other banks. It does not however deal in foreign bills.

THE JOINT STOCK BANKS The Indian joint stock banks have in recent years steadily grown in number and importance. In early nineteenth century such banks were started by the European merchants most of them combining banking and trading functions. The purely Indian banks date from the eighties of the last century. The more important of these number about twenty with about fifty branches all over the country. Their work is to accept

deposits and finance the internal trade. They have a capital of R.8 crores, reserve fund of R.2.6 crores, deposit of R.62 crores, and cash of R.22 crores.

THE EXCHANGE BANKS. The exchange banks are those joint stock banks whose head offices are outside India. They deal primarily in foreign *hundis*, although they discount inland *hundis* as well, especially since the Great War. The special feature of their work is that during the first half of the year, when the two Indian crops require to be moved for export, they largely discount foreign bills. They are about fifteen in number. Their funds are raised in India and abroad. Their total capital is £68 millions, reserve fund £50 millions, deposits £860 millions, and cash £34 millions.

THE GOVERNMENT TREASURIES. In India the Government also performs a lot of banking work, especially in currency matters, as also through the Independent Treasury System. The Government money is only partially kept in the Imperial Bank of India. Throughout the vast country the Government has its own treasuries and sub-treasuries, where it keeps its balances, and through which it maintains the convertibility of the notes and the subsidiary coins. Also *hundis* are sold at one treasury upon another in order to facilitate the transfer of money by private persons. This enables the Government to utilize its surplus money at one treasury by selling *hundis* on it to those who want to remit money there from another place. The remitters find it a cheaper mode of remittance. The same is also done through currency offices. The total transaction annually comes up to over R.100 crores. This is really a banking function, and should be handed over to the central bank of the country.

THE INDIGENOUS BANKERS. The indigenous banker has existed in India from time immemorial. He is variously called a mahajan, sowkar, bania, chetty, or shroff. He is rarely a banker only, but usually combines trade with banking. He is to be found all over the country, from the

Presidency town to the small villages. His profession is often hereditary. Hence he forms more or less a distinct caste. Usually he works with private capital of his own, although some of the big ones also attract considerable deposits from the public. In big towns sometimes he works in partnership with others. In the Western World the private banker has been successfully driven out of the field by the joint stock banks. But in India owing probably to the vastness of the country, long tradition and paucity of joint stock banks, he is still a very important factor. He forms the effective link between the banks and the money market on the one hand, and the shopkeeper and the village moneylender on the other. A large number of indigenous bankers are Marwaris and Multanis, with headquarters at Bikaner and Shikarpur. The work is carried on all over India with the help of an agent called *moonim*. Their number must be counted in lacs, and their transactions in crores of rupees, but no statistics are available of either. Their rate is often very high, although it is gradually coming down. The causes seem to be that (1) in the villages they can lend their money only at some seasons, (2) they have few competitors, (3) the security which they can get is of small worth, especially with agriculturists, it is rarely such as can be easily converted into cash, (4) they are avaricious, and take advantage of the needy and ignorant customers.

CO-OPERATIVE BANKS The co-operative banks have recently grown in number, although their influence in the country is yet small. Their number is about 61,000, the number of their members about 24 lacs, and their working capital about R 42 crores. They not only organize credit, but are themselves a training ground for the development of many social and moral qualities in the constituents.

SAVINGS BANKS There are many savings banks all over the country. The most important is the postal savings bank, which attracts the savings wherever there is a post office. Besides this most banks and many firms also have

savings bank deposits. The number of depositors in the postal savings bank is about 21 lacs, and the amount of deposits R.25 crores.

India has no land mortgage bank, nor did it ever have one. It has not now any industrial bank. At one time it had more than half a dozen of such banks, but all except the Tata Industrial Bank disappeared quickly. In 1923 the latter was merged into the Central Bank.

DEFECTS IN INDIAN BANKING. The great defect in the banking organization in India is that there is no one institution which controls the currency and credit policy of the country. The currency is issued by the Government—a purely banking function nowhere else in the world done by the Government. The credit policy is partly controlled by the Government, and partly by the banks. Among the latter, again, there is little uniformity of policy, and as there is no central institution which is looked upon by the banks as capable of re-discounting their commercial bills in a time of crisis, these bills are not, as in other countries, considered as liquid assets. The Imperial Bank of India might have been such a bank. But its main work is to develop credit, and therefore it actively competes in the market with other banks for attracting deposits and discounting bills. This function cannot be combined with full control over the currency and credit policy of the country, as this would make one of the competing banks the controller. For these reasons the Royal Commission on Indian Currency and Finance (1925-26) recommend the formation of a new central bank—the Central Reserve Bank—which will be given the full control over currency and credit. It is to be hoped that the Government will soon give effect to this recommendation of the Commission.

The table overleaf shows the banking position of India as compared with some other countries of the world—

Countries	Area in 1,000 sq miles	Population		Banking Capital		Deposit		Number of banks	
		Total in millions	Per 1 sq mile	Total in millions	Per capita	Total in millions	Per capita	Total	Popula- tion per bank
India	1,803	319	177	23 or 5 ¹	£ s d 0 1 5	118	£ s d 0 7 5	359	919,000
The United States	3,565	92	25 8	482	5 4 9	5,767	62 13 8	28,012	3,641
The United Kingdom	122	46 8	384	88	1 17 7	2,355	50 6 5	9,357	5,000
Japan	140	56 6	404	67	1 3 8	404	7 2 9	5,874	9,636
Canada	3,604	4 8	2 2	23	2 17 6	324	40 10 —	3,327	2,404
Australia	2,975	4 5	1 5	35	7 15 6 ¹	316	70 4 5	2,356	1,910
									5,021
									127
									13
									24
									1,083
									1,262

¹ Including the capital of exchange banks, which also do extensive business outside India, it is £23 millions, excluding that it is £5 millions

CHAPTER XVI

CO-OPERATIVE CREDIT

A CO-OPERATIVE organization is one in which its members join together in any economic activity with the object of mutual help. The primary object is to escape individual competition, and substitute for it the competition of a group of similarly situated persons whose joint operation helps them to compete with their rivals on more favourable terms than it would be possible to obtain without such combination. Such co-operation may be for purposes of production in which the members combine as workers in order to eliminate or reduce the profit of the organizer and the undertaker of risk. Here the workers undertake the risk and own the business.¹ Again, co-operation may be of the consumers who combine together in order to purchase at wholesale prices and sell among themselves at cheaper rates than the retail rates, thus eliminating the middlemen's profits from the prices of the articles of consumption.² The former is a producers' association or productive co-operation, and the latter a consumers' association or distributive co-operation. In many societies, e.g. the Co-operative Wholesale Society of the United Kingdom, the two functions are combined in the same body. Whether for purposes of production or for those of consumption the members often need credit, and for an isolated man without much asset to pledge, credit is difficult and costly.

Securing Credit.

So co-operation has developed an important aspect, viz., to secure credit. The idea is to combine together and pledge the security of the joint credit of all the members in order to borrow at a low rate of interest, and lend to

¹ *Vide ante* Part II, Chapter VIII.

² *Vide* below Part V, Chapter XXIII.

individual members whose power to borrow in the open market is limited. Sometimes small lenders of money find it difficult to invest their money independently, not knowing the security obtainable, or not being able to judge of the value of the security offered. All such organizations, whether for borrowing or lending, would come under co-operative credit.

Rural and Urban Societies.

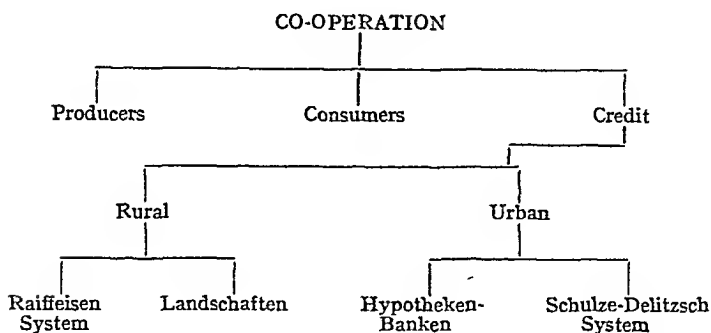
These again are conveniently classified into rural and urban societies. The rural societies are mostly borrowing societies, since the greatest difficulty in rural areas is to get sufficient credit for agricultural purposes. These again are usually for two purposes viz., to have short term loan in order to carry on ordinary agricultural operations for which credit is required only for a short period i.e. till the crop is harvested and sold, and to have loans for longer terms in order to make improvements of the land the return from which is spread over several years. The urban societies are those of lenders who with small savings find it difficult to invest them and those of borrowers who carry on production on a small scale and find it difficult to obtain sufficient credit for the purpose.

Co-operation thus may be of producers and of consumers. It may also be for purposes of credit whether of borrowers or of lenders. Although this latter often is of producers it is convenient to classify and study it separately. Thus we have three varieties viz., of producers of consumers and for credit. As the last originated in Germany we shall use the nomenclature used there.

The subject matter of this chapter is co-operative credit, and we shall therefore deal with it in the following order—

- I Rural (1) Raiffeisen system, and
(2) Landschaften
- II Urban (1) Hypotheken-Banken, and
(2) Schulze Delitzsch system

Following this classification we can divide co-operation as follows—



Rural Co-operative Credit Societies.

Rural co-operative credit is mainly for purposes of agricultural improvements. For such purposes credit of two varieties is required, viz. (1) to increase the working capital for carrying on cultivation, such as wages, purchase of stocks, seeds, manure, etc. The return for such investment takes place in the course of a year or so. It must be realized from the sale price of the crops for which such investment has been made. (2) For permanent improvements of land, e.g. drainage, irrigation, farm buildings, motor tractor, improved implements, etc., loans for a longer period are required inasmuch as the return from such investment can come, spread over a long period of time. Therefore, for these two species of loans there are two different organizations in Germany, viz. (1) The Raiffeisen Loan Fund Societies and (2) Landschaften.

THE RAIFFEISEN LOAN FUND SOCIETIES. They are so called after the founder of the movement, Raiffeisen. These are rural associations, especially of small landowners or cultivators in order to secure protection against the exactions of the local moneylenders, whose charge is high, partly because of the helpless condition of the borrowers, and partly because of the small and indefinite security which the latter

can offer. The members combine together to form an association, the credit of which is the joint credit of all the members. This credit is always their personal credit, i.e. not based on mortgage of their immovable property or pledge of their movable property, but the credit which is based upon their honesty, diligence, frugality. Apparently these qualities can be well known to neighbours only. Therefore, the area of operation of such societies can be a village or a group of neighbouring villages. Also, as the credit is that of all the members the credit of one cannot, while borrowing in the name of the association, be separated. Thus there is unlimited liability of the members i.e. for the debts of a society all the members are jointly and severally liable. This also makes the society very cautious in lending the borrowed amount to the members and makes them alert and vigilant, and see that the money is applied by the member borrowing it to the purpose for which it has been lent by the society. As the money borrowed by the society is lent on low interest, loans are naturally given to members only who by pledging their joint credit borrow the amount, and therefore undertake the risk. The working capital of the society is obtained by a small share capital subscribed by the members, the deposits which are kept with the society by members or others, loans obtained from central or other banks, as also from private individuals, and the reserve funds which the society builds up in time. The management is simple and democratic, all the members taking an active part in the affairs of the society. Loans are granted only for productive purposes on the personal credit of the borrowing member, and the society has the right to inspect and see that the sum is properly utilized. The loan is usually for short term, although it may be occasionally for long term as well, in which case the repayment is by convenient instalments. The profit distributed on the capital is very small, the main portion being carried to a permanent indivisible reserve fund, which belongs to the society.

When the reserve fund is large enough the society undertakes operations for the moral and material advancement of its members. In this way the German societies have started many organizations, viz., libraries, evening clubs, village meeting halls, continuation schools, etc., for spread of popular education ; infant schools, children's savings banks, juvenile clubs, etc., for children ; village nurses, ambulance corps, surgical appliances, etc., for the sick and wounded ; death benefit funds, cattle insurance, accident insurance, sickness insurance, etc., for the benefit of the members ; fire brigades, telephones, veterinary institutions, etc., for the general welfare of the community ; and providing agricultural appliances, machinery, implements, etc., for the improvement of agriculture.

LANDSCHAFTEN. These land banks are organizations for more permanent agricultural improvement. The loans are given for longer periods and on the security of landed property. The object is to relieve the small proprietors who are steeped in debt and suffer from the evil of having to pay high rates of interest, by offering them loans at low rates of interest. Such associations are voluntary organizations on the principle of joint responsibility of all the members for loans obtained by the society. Loans are given to members only. Their operation is also within limited areas, because the valuation of the landed property which is the basis of an individual's credit can be properly made by the men of the locality, and because the supervision of the application of the loan to the purpose for which it has been granted can be effectively carried on only within a limited area. Repayment is by easy instalments, which are expected to be earned from the permanent improvements made on lands. Such instalments cover the interest, contribution to the reserve fund, gradual extinction of the debt, and the cost of management of the society. If a borrower member fails to pay the interest regularly the association has the right to seize his produce and other movables, to take over and administer his estate,

or to sell it by auction. The advantages which such an association confers are many—(i) The agriculturist, i.e. the borrower, finds that after investing capital in his land he cannot be suddenly asked to repay his debt which is to be repaid by easy instalments so distributed as to be payable out of the return from the improvements. (ii) The money-lender who lends through the society finds that the interest is paid by it regularly. His debtor is the society whose assets and therefore, credit are better than those of any individual. He is also saved the trouble of looking into and ascertaining the security of each individual. So his risk is now less, and he is therefore glad to lend on a lower rate of interest. (iii) The advantages to the community are also great. The burdens on proprietors become less, and the market value of lands increases as a result of this lighter weight of debt, and as a result of improvements made on lands. The expenditure on permanent land improvements increases because of the special facilities now offered by the society. With such improvements the output or income from lands increases, and they now support a larger population in greater comfort. Hence the pressure of population on the soil is reduced, and therefore the increasing tendency of migration from rural to urban areas diminishes since there is no pressing debt to be paid which formerly necessitated the sale of a portion of the land.

Urban Co-operative Credit Societies.

Coming now to urban co-operative credit, we find that here the difficulties arise both in the case of small lenders and small borrowers. The ordinary man who has saved a small sum finds it difficult and risky to invest his savings. The small borrowers also find it difficult to borrow at moderate rates. Thus there have arisen two types of societies, one of lenders called the hypotheken-banken, and the other of borrowers called after its founder the Schulze-Delitzsch system.

HYPOTHEKEN-BANKEN. These are associations of lenders

for purposes of making advances for long terms on the security of immovable property. This is co-operation in order to create facilities or open up new modes of investment. There is a subscribed capital besides deposits. The repayment by the borrower consists of the interest, the portion of the principal necessary to extinguish the debt within the prescribed time, and a commission charge.

THE SCHULZE-DELITZSCH SYSTEM. This involves people's banks. The banks in this system are especially devised to suit the needs of the urban people. (Members come from all sorts and varieties of occupations, subscribe a small capital, and distribute fairly large dividends.) The area of their operation is also fairly extensive. They work on the principle of limited liability, i.e. the liability of a member to the debts of the bank is limited by the total amount of the shares which he holds in it. These banks are widely availed of by small traders, artisans, and employers. Unlike the Raiffeisen system, these have no indivisible reserve, their share capital is rather high, loans are for very short periods. They especially foster thrift and saving among their members.

The co-operative system has developed in most of the countries of the world, e.g. England, Germany, Italy, Russia, Austria, France, Ireland, Japan, Denmark, Switzerland, Spain, etc.

Co-operative Credit in India.¹

In India co-operative credit societies were started by the Act of 1904, which was enlarged by the Act of 1912, allowing non-credit co-operation. There is a hierarchy of co-operative banks. Starting at the top with the Provincial Banks, the Central Banks, and the Guaranteeing Unions, it ends at the bottom with the primary societies. These last may be divided into rural or agricultural and urban or non-agricultural.

¹ *Vide* the Government of India Resolution on the Growth of the Co-operative Movement in India, Resolution No. 12-287-1 of 17th June, 1914.

AGRICULTURAL PRIMARY SOCIETIES The agricultural primary societies are again of two types, one gives credit in money, and the other in kind, i.e. grain. The latter type consists of grain banks or dharinagolas, in which the agriculturists can keep their stocks to be sold by the banks, and in the meantime draw money from the banks to make their payments for consumption, for debts to moneylenders, for land revenue to the Government, etc. They thus enable the cultivators to sell their crops at good profit. Also they lend grain to cultivators for consumption, seeds, etc., as well as help them in times of scarcity and famine.

The credit variety proper has, however, more extensively grown in India. The primary societies in rural areas are mostly based on the Raiffeisen system. The area of operations is small because it is essential that the members should know one another very well, as the responsibility is shared by all. Thus the area has been one village or a group of a few contiguous villages. Exception to this rule is made only in cases of people of the same tribe, class, caste, or occupation, who are in intimate touch with one another although they may not live in propinquity. Sometimes different classes of artisans who need credit at different seasons may join in one society, and so supplement the wants of one another. But ordinarily the members come from the same locality, and represent the same community of interest.

The liability is normally unlimited. Without this it is found that members, who are ordinarily very poor, cannot pool together sufficient credit to help them substantially in the matter of loans. The principle has been readily understood and easily accepted in India.

The societies do not usually have shares and dividends. The main use of shares is to limit the liability and seek profits. As the liability is unlimited and as profit seeking is against the principle of the Raiffeisen system on the model of which the Indian societies are based, the system of issuing shares has been discouraged. (But to suit local

conditions, e.g. in Madras, the Punjab, the United Provinces, and Burma, a modified system with shares and dividends has been allowed to develop, in which the profit for the first ten years is not distributed, but added to the capital, and dividend allowed on this added capital, three-fourths being given as dividend proper and one-fourth being annually added to the share capital. } This encourages thrift and the habit of investment. Also this sum, which belongs to the society, helps it to tide over in times of difficulties when deposits by outsiders are likely to be withdrawn. But profit-seeking is always discouraged, and high dividends are rarely distributed.

The security taken from the borrowers is personal. Full mutual responsibility of the members, and the profitable employment by them of the money they borrow are well recognized principles on which the societies work. Thus the security of the society against its members as also that of outsiders—depositors and other creditors—against the society is primarily the character of the members, their personal or immovable property being only of secondary consideration. Usually loans are given on collateral security of one or two members. { Some are given on the mortgage of immovable property, e.g. in Madras and Burma, but rarely is any given on the security of movable property. }

A man with debts is taken as a member unless his debts are so large that there is little chance for him to get out of them. The former is helped by all means to get out of his debts, and once he does so he has little risk of falling into debt again, since the system ensures that the debtor shall be put through a course of action which encourages thrift and discourages debt in future.

The society has discretion in lending for productive and unproductive purposes. In a country like India, where social and religious customs sanction and require unproductive expenditure, any prohibition of granting loans for unproductive expenditure would lead the intending borrower into the arms of the professional moneylender,

from whose clutches the society attempts to extricate him. Moreover a prohibition like that is likely to be ineffective inasmuch as it would be impossible to find out from what sources the man is undertaking his unproductive expenditure. But the society always insists on ensuring and examining the purpose for which a loan is contracted. When a loan is granted the society sees that money is actually spent on the specific purpose.

The primary societies get certain concessions from the Government. In certain cases they are exempted from such charges as stamp duties, income tax registration fees. All are exempted from the legal formalities of the ordinary commercial law of companies. Transfers of money are facilitated through the Government treasury.

The societies derive their funds from various sources the importance of which varies usually in different provinces. Agricultural societies usually derive more than half their funds from loans and deposits from other societies i.e. mainly from the central societies and between 10 and 13 per cent of the total from each of the items of shares loans and deposits by members and loans and deposits by non members. The danger from deposits is that they may be suddenly withdrawn in a time of crisis. But the comparatively little rush that the co-operative societies met during 1914-15 and 1918-19 shows the popular confidence in them. The time of repayment of loans is usually after the harvest when the borrower is likely to be in possession of funds.

Regularity in repayment is a test of the efficiency of the societies and public confidence primarily rests upon that. In the beginning there was some slackness in repayment but with the growth of forethought thrift and business methods such cases have grown proportionately less.

The test of financial stability lies in the reserve that has been built up. The society can fall back upon it in times of financial stringency. Its amount inspires confidence which leads to greater deposits both from members and

non-members. In case of bad debts it saves the members from the necessity of paying cash out of their pockets under the system of unlimited liability. The credit of the society being well established by a large reserve, borrowing becomes cheaper, and therefore the society can provide credit to its members more cheaply than before. Lastly, a large reserve, indivisible but owned jointly by the members, attracts new members and keeps the old members from falling off. That the primary societies in India have built up quite a good reserve fund can be seen from the fact that the percentage of their reserve to the total working capital is about $4\frac{1}{2}$, whereas in the German Raiffeisen banks it is only about 3.

“In India the primary societies depend for their main support upon the Government of the country. The reason is not far to seek. The people who are to be benefited by the system are mainly the rural folk, who are ignorant about the affairs of such institutions. Moreover, owing to the poor condition of the country it is difficult to find sufficient men with leisure to devote their time and services to such work. Further, the extreme illiteracy of the people makes it difficult to find men to check and supervise the work of the officials of the societies. And it is such direct participation in their working, which can create an abiding interest in these institutions.”¹

In spite of the defects of the system the results of the co-operative primary societies have been, on the whole, good. These results may be classified under the following heads—

1. ECONOMIC BENEFITS. To obtain these is the primary motive. The object of co-operative credit is to obtain money at cheap rates. (i) This brings about a saving in interest charges paid for loans. This, in itself is a great benefit. (ii) The society is a sort of village bank, which gives facilities for and therefore attracts deposits. In many cases these come from the hoarded wealth. This

¹ The Author's *Economic Development of India*, Vol. I, pp 41-42.

increases the effective capital of the country (iii) Old debts have been paid off, and old mortgages redeemed in many parts of the country, and thus individual cultivators and sometimes even whole villages have become free from debts through co operative credit organizations (iv) With better facilities of credit the cultivator can bring about improvements and he works more heartily than before because, having been freed from debts to moneylenders, what he earns remains to himself (v) With the improvement in the economic condition of the agricultural classes there naturally comes an increase in their purchasing power, and the general standard of consumption is raised To the extent that it increases their productive efficiency it is wholly good for future production (vi) This increased demand on the part of the largest class of people in the country helps to expand the trade of the country, both internal and external (vii) The most important effect is seen in the improvements made in agricultural land Through co operation better seeds, implements, manures, etc., have reached the cultivators in many places

2 EDUCATIONAL VALUE Education both intellectual and moral, has been stimulated (i) For carrying on the business of the co operative society men have felt the need of education The obvious need for ordinary education lies in keeping accounts, reading pass books and receipts signing promissory notes Literacy has thus been encouraged by the institutions of co-operation (ii) Moral education has been of even greater value Co-operation is based on personal credit Therefore, to be members and so to be able to participate in the advantages, one must be thrifty, honest, and frugal in habits This discourages expenditure for unproductive purposes The principle of unlimited liability has been a powerful check upon unthrifty habits of one another, and a social opinion has been created in favour of economic living Drunkards and gamblers have little chance to be members of a society The other moral

virtues which also are encouraged are self-restraint, punctuality, straightforwardness, self-respect, discipline, contentment, etc.

3. SOCIAL BENEFITS. In some areas litigation has declined, many disputes having been settled through the co-operative organizations. In several places there have been raised common funds to start schools, to provide scholarships, to distribute quinine, to clean streets, to provide wells for drinking water. Institutions of savings banks, benefit funds, and provision for the poor have developed as an adjunct of co-operation. Thus it has revived the old corporate spirit that obtained in the village communities of India.

4. EFFECT ON SMALL AGRICULTURISTS. In European countries co-operative credit has helped the large land owners. In India there is some scope for this also. But the Indian system has been primarily developed to encourage the small societies for the simple folk, and the greatest benefits have been derived by the small agriculturists, who form the basic unit of Indian economy.

5. EFFECT ON MONEYLENDER. The society has been a rival to him, and under its competition he has been compelled to reduce the rate of interest. He naturally looks upon it as his enemy. But in the long run he is finding the society a good means of investment, and in areas where co-operation has made great progress, the deposits come from the moneylending classes as well. This is especially due to the inexpensive management and publicity of the society. Through it he finds also opportunities to invest his capital in the central societies.

6. REASONABLE CREDIT OBTAINABLE. The object of co-operative credit is not to provide very cheap money. This tends to promote extravagance, as the debtor suddenly finds very cheap credit where he had been paying high rates. The movement in India is steadily bringing down the rates and offering reasonable credit. Reasonable credit

is a comparative term, the reasonable rate varying according to the locality. This has the great advantage of encouraging thrift, and yet lightening the burden of debt. Otherwise the debtor who is accustomed to high rates may be tempted to borrow too much, and others not requiring credit for their own use may be tempted to borrow from the society and lend to non members at higher rates.)

Land Banks.

In India land banks on the lines of the German Landschaften have not grown at all. To provide long term loans in order to bring about permanent improvements of agricultural land these are essential. It is a mistake to suppose that these can be opened only when the other type has developed in the country. The two types must go together in order that either may be effective. Such new societies cannot grow without some legislative help from the Government. For landed property to be used as security for loans in the case of such institutions, certain conditions must be brought about which can exist only by legislation in that behalf. For example, there must be a public register showing the titles to lands as also the existing charges on them. Without this the existing liabilities of any land cannot be definitely ascertained, and therefore the amount which can safely be lent against that land remains uncertain. Thus all mortgages or other liabilities on the land, whether anterior or subsequent to the loan, must be compulsorily shown in the register. The claims of the society should have priority over all claims not so entered or entered subsequent to the loan granted by the society. This can apparently be enforced only by proper legislation to that effect. Again, it is essential for the success of any such organization that ready and cheap methods should be provided for the recovery of debts as also, in the required cases for the sale of the pledged property of the borrower. Government help is probably necessary for the right

valuation of the lands which are accepted as pledges for loans.

"Such institutions, if properly organized, can bring about immense improvements of the land. The advantages are many and widespread. (1) The cultivator will welcome the system because he is freed from the present contingency of being suddenly asked to repay his debt to the moneylender (such loans are renewed but granted for short periods only, and often payable on demand), when he has sunk capital in his land, which can repay itself with profit only if he can wait for a long period during which the full effects of the improvements would accrue to him. For example, if he provides for irrigation, drainage, fencing, or even improved implements, machinery, or cattle, the return will come to him spread over some length of time. Therefore, the time for repaying the loan should vary according to the particular way in which he applies the borrowed capital. The society can lend money for such long periods because the land is pledged to it, and, in case of inability on the part of the cultivator to repay, the land can be easily transferred to another before the effects of the improvements are exhausted, since transfer of such lands will have been facilitated by law, and since repayment is to be by instalments, each of which must be paid in due time, failing which the society will take steps towards their collection or towards the transfer of the land to another who can pay regularly. (2) The moneylender or the capitalist will welcome such a society because he can never rely on the punctuality of the cultivator,¹ and hence he will now have to depend upon the credit not of an individual about whose affairs his knowledge can never be very minute, but upon that of an association whose credit will be the joint credit of all its members, besides its prestige as being

¹ "Landed security is good, but not easily or rapidly, realizable; debtors are uneducated and have no idea of business methods or of punctuality in meeting their obligations; . . . and, partly in self-protection, the *mahajan* charges a rate of interest which local custom readily tolerates."—*Report of the Indian Industrial Commission*, p. 211.

supported by the Government. Also the trouble of examining the securities of individuals is obviated by the substitution of the society as his debtor, which will undertake this work with much greater facility, if the conditions explained above be brought about by necessary legislation. In such circumstances it is to be expected that, with greater credit and less trouble and risk of loss, the moneylender's charge for interest will also fall. This fall will mainly go to the borrowing cultivators since the society will be of the co-operative credit variety. (3) Finally, this will bring many and various benefits to the community at large. The burdens on all lands particularly the cultivators and the small proprietors of lands will be considerably reduced at the same time that extensive agricultural improvements will be introduced. With the improvement of agricultural lands, their value will naturally increase. This will improve the condition of all proprietors of lands, as also that of the non-proprietor cultivators if suitable arrangements are made in tenancy laws which will retain to them the effects of their improvements. Again, the improvements which can be introduced now are only minor and secondary. With the adoption of this system the expenditure on permanent agricultural improvements will be more liberal, and to that extent the country will be benefited. The producers will be directly benefited by the increased output and the general body of the people will participate in the advantages in the form of lower prices of agricultural products unless, of course, there is a proportionately greater increase in the population. Also raw materials in the form of agricultural output will be cheaper, this will stimulate industries dependent on agricultural products for their raw materials. This improved condition of the rural classes will naturally react on another problem, viz., that of the thoughtless migration from country districts to large towns on the off chance of earning a living there. The sudden and more or less unexpected release of the rural labourers from all bonds of social ties, which exist in the

villages probably in too great a degree, but which practically do not exist in the new urban environments, has not always been very happy, especially in its moral effects. Further, the prosperity of the rural classes will naturally react upon all classes of the labouring population of the country, and this will make the people better payers of indirect taxes on the articles of general consumption. Thus the Government revenue will automatically swell with such improvements. Finally, there will be a check, partially at any rate, upon a vicious system which prevails in India, especially in Bengal, Bombay, Bihar, and the United Provinces. Now there is excessive subdivision of agricultural holdings, which often makes profitable cultivation impossible. The reasons are several, the most important being a rigid adherence to the letter of the law of inheritance and the attempt on the part of all to live on land. Another important cause is the extreme indebtedness of the rural classes. This compels them to repay their debts by selling or surrendering a portion of their holdings. The temporary effect is to lighten the burden of their debts, but the more permanent effect is to involve them in greater debts inasmuch as the same family or families must now live on a smaller land. Under the proposed system of developing lands there will be no such pressing debt to be repaid, its amount being earned from the improvements made on land, and its repayment with interest being settled on terms of easy instalments.”¹

URBAN CO-OPERATIVE CREDIT SOCIETIES. The non-agricultural co-operative credit societies have not developed very much in India. These are mostly urban societies. The objects for which such societies may be started are said to be two, viz. to encourage thrift by providing a mode of investment which is more attractive than the postal savings banks, and, as in Italy, to lend money to rural banks. Thus their object approaches that of the German *hypothekenbanken*. The number of such associations of lenders is

¹ The Author's *Economic Development of India*, Vol. I, pages 42-47.

limited in India. The important variety is the Middle Class Urban Banks, which issue shares and carry on general banking business on the principle of limited liability. There are others again which are associations of borrowers. The important varieties are—(1) The societies for salary earners. The share capital is subscribed from the savings out of the salary. These are suitable for small artisans, traders, etc., and are of great help to their members, as they cannot offer any security besides their salaries, and therefore cannot get cheap credit without such organizations. (2) The societies for poor castes. These consist of mill hands, drivers, cobblers, scavengers, masons, sweepers, etc. Members are usually limited to those belonging to one caste and living in the same locality. They subscribe to a small capital, but the bulk of the working capital is raised by loans and deposits from non-members. The funds thus obtained are lent to members at low rates of interest.

THE CENTRAL SOCIETIES. Above the primary societies are the central banks, the provincial banks, and the guaranteeing unions. The central societies have been formed for purposes of control and of finance by grouping the primary societies under a central bank. This helps mutual inspection among the latter and the development of uniformity in the matter of work and accounts. Such groups naturally command greater confidence, which in co-operation means cheaper credit than an individual primary society is ever likely to attain. Central bank is the name of such a group of primary societies. When a central bank is formed only for mutual inspection and extension of societies it is called a guaranteeing union. This union system has well developed in Burma, although a few are found in Madras, Bengal, and Assam as well. When a central institution finances but does not inspect the primary societies of which it is constituted it is called a central or district bank. (The area of central banks is usually limited to a district, subdivision, *taluka* or *tahsil*.) Usually they

are composed of primary societies, although some are composed of individuals and some of mixed individuals and primary societies. { The main object of a central bank is to supplement the working capital of the primary societies. It raises funds by shares and debentures. Thus the central banks bring the village borrower in touch with the outside money market to which they have, but the borrower has not, access.

THE PROVINCIAL CREDIT BANKS. The provincial or the apex bank occupies roughly the same position in regard to central banks as the latter do in regard to primary societies. In the busy season the central bank requires more money and in the slack season it does not know how to utilize its funds. This is done through the provincial bank. Bombay and the Central Provinces each has a provincial bank. It has a high share capital which is the basis of credit. It attracts deposits, contracts loans, and generally links the central banks with the ordinary commercial banks.

Statistics of Co-operation in India.

The progress of the co-operative movement in India may be seen from the accompanying tabular statements of their numbers, the numbers of their members, and their working capital. The number of societies per 100,000 inhabitants in India is about 23.

NUMBERS

	Average for 4 years from 1906-07 to 1909-10	Average for 5 years from 1910-11 to 1914-15	Average for 5 years from 1915-16 to 1919-20	1923-24
Central and Provincial Banks	} 17	231	{ 304	530
Guaranteeing Unions . . .				1,402
Agricultural Societies . .				54,645
Non-agricultural Societies .	1,713	10,891	25,873	4,529
	196	664	1,662	
Total —	1,926	11,786	28,477	61,106

NUMBER OF MEMBERS

	Average for 4 years from 1906-07 to 1909-10	Average for 5 years from 1910-11 to 1914-15	Average for 5 years from 1915-16 to 1919-20	1923-24
Central and Provincial Banks Guaranteeing Unions Agricultural Societies Non-agricultural Societies	{ 1 987 107 643 54 267	23 677 459 096 89 157	{ 89 925 80 971 902 930 226 031	166 585 28 720 1 774 913 338 654
Total number of Primary Societies	161 910	548 253	1 128 961	1 313 567

WORKING CAPITAL

(In lacs of rupees)

	Average for 4 years from 1906-07 to 1909-10	Average for 5 years from 1910-11 to 1914-15	Average for 5 years from 1915-16 to 1919-20	1923-24
Paid up share capital	13	89	252	373
Loans and deposits from members	14	88	96	294
Loans and deposits from societies	13.5	193 ¹	48	189
Loans and deposits from Provincial or Central Banks	—	—	503	1 352
Loans and deposits from Government	6	11	26	74
Loans and deposits from non members and other sources	20	142	470	1 219
Reserve and other funds	1.3	25	223	356
Total	68	548	1518	4053

¹ Includes loans from Provincial or Central Banks.

CHAPTER XVII

FOREIGN EXCHANGE

FOREIGN exchange denotes the value of the currency of a country in terms of the currency of another country. This depends upon the commodity value of the two currencies inasmuch as in international trade the currency of the country cannot be accepted as such in a different country. The payment from one country to another can be made in any one of three ways. It may be by exporting commodities in which the difficulties of barter come into operation. The debtor must be dealer in a commodity of which the foreign creditor is in need. Secondly, the payment may be made by exporting bullion or specie ; specie means coined metal used as metal. This is costly. The third method is by the bill system.

Foreign Bills of Exchange.

The principle of the bill system is the same as the *hundi* system. Let us take two countries A and B, A exporting to B goods worth £100, and B exporting to A goods worth the same amount ; let us also suppose that the currency in B is pound sterling, and that in A is dollar, and that the relative value of the two coins as metals is £1 = \$5.

A	$\$5 = \pounds 1$	B
Export	$\pounds 100$	Import
Import	$\pounds 100$	Export
	$\xrightarrow{\hspace{1.5cm}}$ $\xleftarrow{\hspace{1.5cm}}$	

If there were no bill system, the importer in B will have to send specie to the exporter in A worth £100, and the importer in A will have to do the same to the exporter in B. Thus there will be need of specie worth £200 *plus* the cost of transporting it from A to B and from B to A. This double cost of transportation, and the whole of the use of specie are obviated by the bill system. The exporter in A

draws bills on the importer in B the value of which is £100. This entitles the holder to receive £100 in B. The exporter sells this bill in A for home currency, i.e. 500 dollars. The importer in A readily buys this bill for the sum and sends it on to his creditor, i.e. the exporter in B. He in his turn presents it to the importer in B upon whom the bill is drawn, and receives payment. Thus the importer in A pays the exporter in A, and the importer in B pays the exporter in B. Thus no specie passes between A and B, and yet payment is ultimately made by the importer in B to the exporter in A, and by the importer in A to the exporter in B.

Fluctuations in Currency Values.

It is apparent that the exports and imports of A and B may not be and in actual life, are rarely the same. If they are different, the rate of exchange will fluctuate. In the above illustration let us suppose the following change in the amount of the foreign trade—

	\$5 = £1	
A		B
Export	£150	Import
Import	£100	Export

Then the supply of bills in A will be greater than the demand for them. Therefore, the price of bills in A will fall. This means that less dollars are to be paid for a sterling bill, or which is the same thing, 5 dollars can buy more of sterling. In other words, the currency of A appreciates and that of B depreciates in its relative value, i.e. in order to buy £1 less than 5 dollars will be necessary. This changes the rate of foreign exchange, which is now no longer £1 = \$5 but different.

	\$5 = £1	
A		B
Export	£100	Import
Import	£150	Export

On the other hand, if the trade balance is as above the demand for bills in A will be greater than their supply

in A. Therefore, their price increases, that is, more of dollars are to be paid for the same amount of sterling. In other words, the currency of A depreciates, and that of B appreciates in its relative value. This will bring about an opposite change in the rate of foreign exchange, £1 being now equal to more than 5 dollars. Thus there are brought about the upward and downward movements in the rate.

Specie Points.

It would seem from the above that there is no limit to such fluctuations in the rate. There are, however, rigid limits beyond which it can never move, and the scope for fluctuations is really very limited. It should be remembered that the bill system is used to save the cost of transporting specie. If, therefore, the rate of exchange is such that transporting specie is cheaper than selling or buying bills, that would be done and the bill dropped. If we assume that the cost of transporting specie worth £1 between A and B is $\frac{1}{2}$ a dollar, the rate cannot fluctuate beyond £1 = \$5 $\frac{1}{2}$ and £1 = \$4 $\frac{1}{2}$. If the rate is £1 equal to more than 5 $\frac{1}{2}$ dollars the importer in A will find that in order to discharge his debt to the exporter in B he has to pay more than 5 $\frac{1}{2}$ dollars, whereas he can buy specie worth £1 in A at \$5 and can send it to B at $\frac{1}{2}$ dollar, thus incurring a total cost of 5 $\frac{1}{2}$ dollars. Therefore, he would refuse to pay more than 5 $\frac{1}{2}$ dollars for a bill worth £1. On the other hand, if the rate is £1 equal to less than 4 $\frac{1}{2}$ dollars the exporter in A will find that for every £1 that he parts with by drawing bills on B he gets less than 4 $\frac{1}{2}$ dollars, whereas if he brings specie from the importer in B he will have to pay $\frac{1}{2}$ dollar for £1 or \$5, i.e. his net amount will be \$4 $\frac{1}{2}$. Therefore, he would refuse to accept less than 4 $\frac{1}{2}$ dollars for a bill of £1.

Thus the points which fix the movement of the rate of exchange are the relative value of the two coins *plus* the cost of transporting specie and the same *minus* the cost. These are called specie points. The point at which specie

other services by way of commission agents, brokers, etc. All this creates demand for bills on London.

II. STOCK EXCHANGE INFLUENCES. (1) Securities sold in London by a foreigner or bought abroad by a Londoner mean payment from London to other countries, and therefore lead to the supply of bills on London. On the contrary, securities bought in London by a foreigner or sold abroad by a Londoner mean payment by foreigners to London, and therefore create demand for bills on London. (2) Loans granted by the United Kingdom to other countries lead to bills on London by selling which the borrower receives the loans. If the United Kingdom borrows money from others it is transferred to London by purchase of bills on London. (3) When the interest of the loan is to be paid it creates supply of bills on London when the United Kingdom is to pay it, and demand for them when the United Kingdom is to receive the interest. (4) Similarly, when capital is invested abroad by the United Kingdom it is done by creating supply of bills on London, and when the dividend is to be paid to London it creates demand for bills on London.

III. BANKING INFLUENCES. (1) When credit is given by a London house to a foreigner the latter draws bills on London while at the time of closing the credit or, if it is continued, at the time of covering, the foreigner buys bills on London. (2) Arbitrage operations also affect the rate of exchange. These are also called triangular exchanges when they affect more than two countries. The difference in the rates of exchange in different places occasions arbitrage transactions. If, for instance, bills on demand on Paris can be bought in London at 25·32, and bills on London can be bought in Paris at 25·25, it will be profitable for a Paris banker to buy the latter and to obtain in exchange bills on Paris.¹ For every £1,000 on London which he

¹ As the object is to illustrate the principle only, the rates are taken as they used to be in pre-war days. Now the franc is depreciated by several hundred per cent.

tends to flow out of the country is called the *export point*, and that at which it tends to flow into the country is called the *import point*. When the rate is exactly at the relative value of the two coins the bill is said to be at *par*. When it is above par the bill is said to be at *premium*. When it is below par the bill is said to be at *discount*.

It should be noted that the sale and purchase of bills is not done by the exporters and the importers directly from one another. The exporters sell their bills to a bank and the importers buy from there. Thus the banks discount the exporters' bills, and against these sell bills to the importers. The bank is thus a great link between the two great parties in exchange.

Relative Indebtedness.

For the sake of convenience we have so long been speaking only of exports and imports. Besides these there are other factors as well which affect the rate. In fact, whatever foreign transaction makes a country send a remittance increases its demand for foreign bills and, therefore, makes its own currency depreciated, and that of the foreign country appreciated. On the contrary, whatever foreign transaction makes a country receive a remittance from abroad increases its supply of bills and, therefore, makes its own currency appreciated and that of the foreign country depreciated. Thus each of those factors that affect the equation of indebtedness has its effect in fixing the rate of exchange within the limits fixed by the two specie points. The factors which affect the rate of foreign exchange have been thus classified in the case of London, which draws few bills, but upon which bills are drawn by other countries¹—

I TRADE INFLUENCES. (1) Imports to the United Kingdom cause bills to be drawn upon London, and exports of the country create in other countries demand for bills on London. (2) For the trade which is carried in British ships payment has to be made to their owners as also for

¹ G. Clare *The A B C of Foreign Exchange* Chapter XIII

other services by way of commission agents, brokers, etc. All this creates demand for bills on London.

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buys he has to pay 25 250 francs while the same £1 000 in London enables him to buy 25 320 francs on Paris. Therefore he receives 70 francs more than he spent. These transactions become more complicated if a bill on a third place is remitted from one of the two places. If for instance the Paris banker instead of obtaining a bill on Paris in London in exchange for the bill on London remitted by him gets from London a bill on Amsterdam there would be triangular exchange. In this way exchanges of many countries may be involved. In such cases the risk increases. For before the Amsterdam bill reaches the Paris banker the rate between Paris and Amsterdam may move to his disadvantage. In the case of long bills i.e. bills maturing after a definite period of time the rates of discount in the two countries concerned must be taken into account. The margin of profit in arbitrage transactions is reduced by the competition among the dealers. The net result is that the rates of exchange in all important centres closely correspond to one another.

Demand and Supply of Bills

It will be seen from the above study of the factors which affect the foreign exchange that the greater the supply of bills on a country the more is the exchange against it i.e. the greater is the depreciation of its currency in terms of the foreign currencies and that the greater the demand for bills on it the more is the exchange in favour of it i.e. the greater the appreciation of its currency. On the other hand if a country draws bills on other countries then the greater the supply of bills the greater is the exchange in its favour and the greater the appreciation of its currency while the greater the demand for foreign bills the greater is the exchange against it and the greater the depreciation of its currency in terms of foreign currencies.

Determination of Indian Rate

India draws foreign bills and therefore the factors that affect the rate in India are (a) Those that create the supply

of foreign bills in India, viz.—(1) exports, (2) loans raised abroad, (3) remittances to home by Indian emigrants from outside India, and (4) remittances to persons or bodies in India from outside, e.g. the foreign travellers, the various Christian missionary societies, etc. (b) Those that create demand for foreign bills in India, viz.—(1) imports, (2) imports of the precious metals, (3) purchase of foreign securities by Indians, (4) remittance to Indian travellers and students abroad, (5) remittances to home by the foreigners residing in India, (6) services rendered by foreigners to India, e.g. shipping and insurance companies, exchange banks, etc., (7) payment of interest on foreign loans, and (8) Home charges of the Government of India.

The Par of Exchange.

In the above discussion we have tacitly assumed that the par of exchange remains unaltered. This will be so only when two countries have coins of the same metal, and the mint law about the metallic contents of the coins of the two countries remains the same. In the above illustration, if the metallic content of the dollar is changed, the par of exchange will at once change. If the two countries have coins of two different metals, say, one gold and the other silver, the par of exchange will change with every alteration in the relative value of gold and silver in the world market. If the currency of one of the countries consists only of inconvertible paper money, the par of exchange will change according to the facility with which the metal coined in the other country can be bought or sold in this country. This depends upon the extent of depreciation of the paper money in terms of the metal.

It is evident now that the par of exchange changes frequently in the last two cases, and in the first case only when the metallic content of the coin is altered. This will affect the rate of exchange since it depends upon the par *plus* and *minus* the cost of transporting specie. Another factor which affects the rate is a change in the cost of

transporting specie Except over a long time or after crisis, like that of the Great War, this change is not of great importance, because it is rarely sudden

Correcting the Exchanges.

When the exchange rate is against a country this means that its obligations to other countries are greater than those of other countries to it In such circumstances the ways of correcting the exchanges are—(1) to increase exports and thereby increase the obligations due to it from other countries, (2) to diminish imports in order to reduce its obligations to other countries, (3) to reform the currency of the country if it is depreciated for a depreciated currency makes its payment in home currency heavier even when the obligations in terms of foreign currencies remain the same and (4) to raise the rate of interest, for a higher rate will induce those remitters who are on the margin of foreign payment i.e. those whose need for foreign payments is not urgent, to fall out and not send the remittance, while foreigners who have payments to receive from the country are tempted to invest their dues in that country This also tends to increase bank deposits to earn this higher rate As the discount rate closely follows the rate of interest a higher rate makes money dearer and, therefore creates lower prices With lower prices exports are encouraged and imports discouraged

CHAPTER XVIII

THE INDIAN CURRENCY AND EXCHANGE

WE have postponed the study of the Indian currency to this stage because it is vitally related to the Indian exchange, and therefore the study of foreign exchange is preliminary to its study.

The Gold Exchange Standard.

The Indian currency system is the gold exchange standard.¹ The system was first developed in India towards the beginning of the present century, and has since been adopted in many other countries. In a modified form, what is called the gold bullion standard,¹ it has now been adopted in many of the European countries.

A short history of the system in India will make it easy to understand. In 1835 the rupee was made the only full legal tender. The rate of exchange was about 2s., and depended upon the relative value of gold and silver as metals. Up to 1893 it was a free coin. But owing to the discovery of silver mines in the middle of the last century, especially in California, there began a continued depreciation of silver during the second half of the nineteenth century. As a result the rupee could not be considered as equivalent to 2s. Silver depreciation brought about violent fall in the rate of exchange as quoted in terms of sterling. This introduced great uncertainty in all foreign transactions, since the rupee equivalent of payments to be made or received kept on changing. This also introduced an undesirable element of speculation in all normal transactions of trade and commerce. A general desire for stabilizing the external value of the rupee was manifest. The proposals for international bimetallism failed at the monetary conferences of 1878, 1881, and 1892. In the

¹ *Vide ante*, Part III, Chapter XIII.

meantime, one after another, the more important countries of the world—Germany, Japan France, the United States—demonetized silver and adopted gold. This increased the demand for gold reduced that for silver, and increased the supply of the latter by demonetization. Thus silver depreciated further. India was a debtor country, having had to meet large obligations in the United Kingdom. Every fall in the value of the rupee meant a rise in rupees of the sterling obligations to be met abroad. By 1893 the rupee had fallen to less than 1s.

In order to prevent this difficulty India had two alternatives viz., to adopt gold in currency or otherwise to stabilize the rate of exchange. The former was found to be too costly and also unsuitable for the value of the internal exchange transactions. Thus the problem was how to keep the rupee as the internal currency, and at the same time to have a steady exchange rate with gold using countries, that is the countries with which the major portion of India's foreign trade was carried on. To secure this it was necessary to bring about a divorce between the money value and commodity value of silver so that the continued fall in the latter may not affect the former. This could be done by making the rupee a token coin. In order to achieve this end either of two methods might be adopted. The face value of the rupee might be kept as it then was i.e. less than 1s, and its metallic content reduced, or the metallic content might be kept as it was and its face value raised. As the rupee was circulating for a long time as a coin of a certain definite weight and fineness, and was being used for other than currency purposes e.g. by goldsmiths etc., it was rightly considered prudent to resort to the second alternative.¹ Thus the metallic content was left intact, and its face value was fixed at 1s 4d. Making the rupee a token coin necessarily meant stopping its free coinage. This made the coin absolutely safe so long as the price of

¹ On the recommendation of the Indian Currency Committee of 1892.

silver was falling or remained steady. But it is apparent that if there were a rise in the price of silver, the rupee coin would be threatened because the price of its metallic content might rise up to and exceed its face value, when it would be profitable to melt it.

The Government did not try to maintain the new rate and so it became more or less ineffective, the actual rate reaching 1s. 4d. only in 1898. Next year, with the ultimate object of introducing gold currency, the sovereign and the half-sovereign were made full legal tenders, along with the rupee at the fixed rates of 1s. 4d. to the rupee. At the same time machinery was set up to maintain the rate of exchange between the rupee and the sovereign.

We have seen that the rate of exchange depends upon various factors in the foreign transactions of a country, which may entitle it to receive payment from abroad (favourable balance) or oblige it to make payments to other countries (unfavourable balance). Thus the rate depends upon the supply and demand of foreign bills, which ultimately depend upon the balance of indebtedness. Therefore, merely fixing by law the rate of exchange between the rupee and the pound sterling by the Government would not establish it as the market rate. In order to do so either or both of two systems might be introduced. The Government might undertake to convert sovereigns into rupees and rupees into sovereigns. The Government undertook the former but not the latter. The danger thus was that for purposes of foreign trade gold might not be available in India even when the rate had moved to the specie point. A similar difficulty in regard to gold import was less likely, as gold could be had from the currency of other countries and converted in India into rupees. It should be noted that the occasions for exporting gold from India are few, as India normally has a favourable balance of trade. But a failure of the harvest may suddenly reduce exports and, therefore, the supply of foreign bills. This would lower the rate of exchange.

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¹ On the recommendation of the Indian Currency Committee of 1892.

silver was falling or remained steady. But it is apparent that if there were a rise in the price of silver, the rupee coin would be threatened because the price of its metallic content might rise up to and exceed its face value, when it would be profitable to melt it.

The Government did not try to maintain the new rate and so it became more or less ineffective, the actual rate reaching rs. 4d. only in 1898. Next year, with the ultimate object of introducing gold currency, the sovereign and the half-sovereign were made full legal tenders, along with the rupee at the fixed rates of rs. 4d. to the rupee. At the same time machinery was set up to maintain the rate of exchange between the rupee and the sovereign.

We have seen that the rate of exchange depends upon various factors in the foreign transactions of a country, which may entitle it to receive payment from abroad (favourable balance) or oblige it to make payments to other countries (unfavourable balance). Thus the rate depends upon the supply and demand of foreign bills, which ultimately depend upon the balance of indebtedness. Therefore, merely fixing by law the rate of exchange between the rupee and the pound sterling by the Government would not establish it as the market rate. In order to do so either or both of two systems might be introduced. The Government might undertake to convert sovereigns into rupees and rupees into sovereigns. The Government undertook the former but not the latter. The danger thus was that for purposes of foreign trade gold might not be available in India even when the rate had moved to the specie point. A similar difficulty in regard to gold import was less likely, as gold could be had from the currency of other countries and converted in India into rupees. It should be noted that the occasions for exporting gold from India are few, as India normally has a favourable balance of trade. But a failure of the harvest may suddenly reduce exports and, therefore, the supply of foreign bills. This would lower the rate of exchange.

Council Bills and Reverse Councils

The machinery which the Government set up for maintaining the rate of exchange was the system of selling Council Bills and Reverse Council Bills. Council Bills are rupee drafts drawn by the Secretary of State for India in London upon the Government of India and sold in London. Reverse Councils are sterling drafts drawn by the latter in India upon the former and sold in India. When there is an excess of exports over imports the supply of sterling bills becomes greater than their demand. This raises the rate beyond $1s\ 4d$. The Secretary of State offers to sell rupee drafts at $1s\ 4d$ *plus* the cost of transporting gold from England to India. Thus the Indian exporter will refuse to sell his sterling drafts at any price beyond $1s\ 4d$ *plus* the cost of transporting specie inasmuch as he can through Council Bills get the remittance from England. Thus the sale of Council Bills effectively restricts the upward movement of the rate to $1s\ 4d$ *plus* the cost of transporting specie. On the other hand when there is an excess of imports over exports the demand for sterling bills becomes greater than their supply. Therefore the price of the bills rises i.e. $R\ 1$ can now buy less of sterling. This lowers the rate below $1s\ 4d$. The Government of India offers to sell sterling drafts at $1s\ 4d$ *minus* the cost of transporting specie. Thus the Indian importer will refuse to buy his sterling drafts at any price below $1s\ 4d$ *minus* the cost of transporting specie and make his remittance with Reverse Council Bills. Thus the sale of these bills effectively prevents the downward movement of the rate to go beyond $1s\ 4d$ *minus* the cost of transporting specie. This is the machinery which the Government set up in 1899.

But for the Government to be able to draw such bills particularly upon the Secretary of State who has no independent source of income it is essential to have a reserve of cash to meet such bills. The profits of rupee coinage—now a token coin—were earmarked for this reserve which is called the Gold Standard Reserve.

In 1900-01 the Government introduced a large amount of gold sovereigns and half-sovereigns into circulation as a step towards having a gold currency in India. But by the end of 1901 it was found that all the gold coins had disappeared from circulation either by being returned to the Government or by being transported beyond the borders. From this the Government concluded that India did not want the circulation of gold coins. Its critics, however, point out that the Government made the mistake of trying to put gold into circulation at a time when India had just passed through an acute famine (1899-1900) which affected practically the whole of Northern India, and which, therefore, reduced the value and extent of exchange transactions in general. Hitherto India was having a prospective gold currency. From now India definitely gave up the idea of having a gold circulation, and thus adopted the Gold Exchange Standard. However, the Currency Commission of 1912 approved of the system, although it suggested gold coinage in India if the people wanted it. Before the recommendations of the Commission could be given effect to the European War had broken out.

A Rise in the Price of Silver.

As the War progressed the sterling price of silver went on rising. In 1914 it was about 26d. per ounce. When the price is 43d. the rupee loses its token character. Thus if the price goes above 43d. the rupee coin can be profitably melted. Also so long the sterling was the same as gold, but now it became an inconvertible paper depreciated in terms of gold. By January, 1917, the sterling price of silver had gone beyond 43d., and the rupee coins in circulation—about R.300 crores—had to be protected by raising the rate to rs. 4½d. In 1920 the price went up to about 90d. and the rate to 2s. 10d. The sterling price of silver was affected by two factors, viz.—(1) The depreciation of sterling. At one time it was 3·23 dollars, the normal pre-war par being 4·86 dollars. Every fall in sterling meant a rise in

the sterling price of silver even when its gold price remained the same (2) But the gold price of silver did not remain the same The demand increased because of the depletion of gold in the currency of the European countries which tried to make up for it by using more silver coins The supply diminished because of the signs of exhaustion in the Canadian mines and because of the disorganization of silver production in Mexico and Bolivia as a result of the political turmoils Further the supply of gold in the United States increased because of gold having been exported there from Europe to pay for the war materials which America had sold to the belligerent powers Thus gold prices rose in America and as America is the most important silver producing country the gold price of silver rose as a result of this accumulation of gold

In order to maintain the rate which was fixed in 1920 at 2s gold¹ the Government sold Reverse Council Bills at 2s *plus* the extent of sterling depreciation in terms of gold The Secretary of State found it difficult to meet these bills as his fluid assets in the gold standard reserve had been very much reduced As soon as the sterling price of silver fell below 50d and the threat of melting the rupee coin removed the Government declared itself unable to maintain the rate of 2s gold and stopped all exchange transactions to keep up the official rate Since then the rate has been drifting about and the gold exchange standard must be said to have broken down Since 1924 however the Government has been trying to keep a fixed rate near about 1s 6d by selling Council Bills whenever the rate tends to go above the rate and selling gold or Reverse Council Bills whenever the rate tends to fall below 1s 6d The report of the Currency Commission of 1925 has been published but no steps have yet been taken (December 1926) The important change which it suggests is to have gold bullion standard² in the place of the gold exchange standard This

¹ On the recommendation of the Currency Committee of 1919

² *Vide ante* Part III Chapter XIII

makes little difference in the principle of the system. There is, however, a great controversy over the rate as to whether it should be 1s. 6d., the rate maintained by the Government since 1924, or 1s. 4d., the rate which obtained from 1899 to 1914.¹

Effects of the Rise and Fall of the Indian Exchange.

From the point of view of this book we have little to do with the exact rate to be fixed. We should rather study the effects of a rise or fall in the rate upon the trade and production of the country. From this point of view the effects may be divided into temporary and permanent. Temporary effects are those which affect trade and production before the internal prices adjust themselves to a change in the rate of exchange. Permanent effects are those which operate only after there has been this adjustment.¹ In India the rate of foreign exchange is quoted in terms of sterling, i.e. the foreign currency. Thus if there is a rise in the rate it means that the home currency has appreciated. This has adverse effects upon the exporter, for he finds that he has to surrender more of the foreign currency of the country in terms of which he has sold his goods than he used to do at the old rate. Thus the amount of rupees for the same price at the foreign currency becomes less. Getting less than before he can offer less to those from whom he buys. Therefore, the demand price of the commodity, which is offered to its producers, falls. Thus a rise in the rate first affects the export trade, and then necessarily the production of the goods which are subject to the export trade of the country. On the other hand, the rise in the rate helps the importer. He finds that in order to pay for the same price at the foreign currency he has to give less in rupees. This leads to an increase in imports.

These are the temporary effects. If the process continues sufficiently long there are interactions upon exports

¹ The Bill accepting the 1s. 6d. rate was passed by the Legislative Assembly in March, 1927.

and imports and, through them by a sympathetic operation on prices, upon most other commodities. If the rate goes up the increase in imports reduces the prices of all imported goods, as also of those which may be used as substitutes for them. Thus a fall in the price of fine cotton piece goods affects that of coarse ones, a fall in the price of imported sugar brings down that of home made sugar and *gur*. Further, this fall in the prices of so many articles will lead to a sympathetic fall in the prices of other articles, which are not directly subject of foreign trade. Such a widespread fall in prices will reduce the cost of producing the exported articles. Every fall here will neutralize the effect of a rise in the rate upon their export. On the other hand, a fall in the prices of the imported articles will neutralize those of exports, leaving the two in the same position as before the rise in the rate of exchange. The effects of a fall in the rate will be exactly opposite of the above.

Different interests will be affected differently, but ultimately the effects must be as stated above. Thus in the long run that is, when sufficient time has been allowed for the internal prices to adjust themselves to the variation in the rate of exchange, the latter has little effect upon the trade and production of the country. Thus the disturbing effect is due not to the rise or fall in the rate of exchange, but to the rising or falling rate.

It is evident that the gold exchange standard depends for its maintenance upon the Government, and is, therefore, a managed system. From this the conclusion is too hastily drawn that it is therefore not automatic in its operation. It is no doubt managed by the Government, but it may nevertheless be automatic. The essential feature of an automatic currency is that its amount should vary according to the needs of the country. If, for example, there is an adverse balance of trade it shows that the country is a good market to sell in and a bad one to buy from. The reverse process is at once started by the efflux of specie to meet the adverse balance when the reduction in the home

currency increases its value and lowers prices, thus making the country a better market for buying, and a worse one for selling. If this be considered as the fundamental feature of an automatic as opposed to a managed currency, then the gold exchange standard may be automatic, even if it be managed by the Government. Let us suppose that India and England have gold currency, and that imports to India from England are greater than exports. Now gold will flow from India to England, swell its currency, and push up English prices, while the contrary will be the case in India. The remedy will thus be found by cheapening Indian products in England, and making English products dearer in Indian currency. Therefore, Indian exports to England will increase, and English exports to India will diminish, and the balance of trade will be restored.

Now let us see what will be the case when India has the gold exchange standard. To make payments to the English creditors Indian debtors will try to buy bills on London. But as the amount of these represents the amount of English debt to India, it will be less than the Indian debt to England, because there is, as has been supposed, an adverse balance against India. So, sterling will rise in terms of the rupee, and as gold is not circulating in India the fall in the rate of exchange will tend to be indefinite, limited by the facility of buying gold as a commodity in India. But here the Government will intervene, and sell Reverse Council Bills at the official rate *minus* the cost of transporting specie. This will at once check the fall in exchange by neutralizing the excess demand over the supply of sterling bills in India. By this sale the Government will realize in rupees the amount of sterling. This must be rigidly kept out of circulation as a part of the home reserve for maintaining the rate. Therefore, the amount of Indian currency being reduced will rise in value, and bring about a fall in prices. This is exactly the process which we want to have in operation in the case of an excess of Indian imports over exports, and this is exactly what the

gold currency accomplishes. It is in this way alone that the home currency responds to the stimulus of trade and this is what we mean to have when we say that the currency should be automatic. Thus it will be seen that a managed and an automatic currency are not two mutually exclusive conceptions but that the two principles can be combined in the Gold Exchange Standard.

The point to be noted is that the Indian currency locked up by a sale of Reverse Council Bills must never be liberated except to mature Council Bills sold by the Secretary of State to maintain the rate of exchange at par. Unfortunately this has not happened in India. The currency increases when Council Bills are presented to the Government of India but when Reverse Council Bills are sold the proceeds are not locked up but utilized by the Government and thus come again into circulation. In this way inflation of the currency has gone on for years. Another defect has been the investment of the gold standard reserve by the Secretary of State in spite of the vigorous protests of the Government of India. This has increased the reserve but has locked more than £50 millions in securities which have now very much depreciated. But none of these defects is inherent in the gold exchange standard and none of these can be taken as defect of the system itself.

PART IV DISTRIBUTION

CHAPTER XIX

THE PROBLEM AND RENT

THE problem of distribution arises, as we have seen,¹ when the system of production emerges from production by the individual to that by the group. With group production the producers bring together various grades of labour, as also the other factors of production. The total product of a country is the result of the four agents of production, and when the national dividend or income is ready it is divided or distributed among those who provide the agents. Thus distribution concerns the national dividend. This national dividend consists of all the goods and services produced during the period of time which is taken for consideration, say one year. The money represents only the real income calculated in terms of commodities and services. The money income is conveniently calculated over a limited period, say, one year, but in the case of goods and services there cannot be such division, for the process of production and consumption, and therefore of distribution cannot be so definitely separated in life. We should rather conceive of production as a flow out of which consumption is continuously going on through the process of distribution, and which by the very process of consumption and its reaction on productive efficiency is swollen into a bigger flow. But taking any one particular economic process we can trace two stages, one the process of production, and the other that of consumption. Between these two must come the process of distribution. From this point of view distribution has an aspect of conflict which

¹ *Vide ante*, Part I, Chapter II.

production or consumption does not show ¹ After the process of production is complete the output or its money value is to be distributed among the various factors of production, and here the total having been fixed, the greater the share of one factor the less must remain for the others. The real conflict is actually seen between the capitalist and the organizer on the one hand, and the workers on the other. This element of conflict complicates the study of distribution, especially in the application of the laws evolved by the science of economics.

The Problem of Distribution.

Thus the problem of distribution is to find out the principles according to which the total output calculated in terms of real or money income which is the result of the joint effort of land, labour, capital, and organization is divided among these as the reward of their services towards producing that output. The income of these factors is called respectively rent, wages, interest, and profit. It should be noted that in life a man may contribute towards production in more than one capacity, e.g. as an owner of land and capital. Then his share of the national dividend must be said to consist of rent and interest. In other words the above classification refers to the functions in production and not to individuals. We shall now deal with each of the subdivisions of distribution.

Rent.

We know that the value of land depends upon its natural suitability for purposes of production, permanent improvements made on it in the past and its situation in reference to the market ². This assumes that the product of different lands worked with the same quantity of other factors differs as a result of the first two causes and the supply price of their product in the market differs further as a result of a difference in the situation. If two contiguous lands be

¹ *Vide ante* Part II, Chapter VII.

² *Vide ante*, Part II, Chapter IV.

cultivated with an equal amount of labour, capital, and organization their products differ. Thus a differential surplus is created although the stimulus of productive factors is the same. Again, if the same land is cultivated with increasing units of other productive factors the law of diminishing return ultimately operates, and although the stimulus is the same the result for different units is different, the marginal output just covering the cost of production and the previous units producing more than that. As the cost of each unit of productive power is the same, the previous units before the marginal one must be yielding a surplus. Thus in the same land a differential surplus is created. The former is in extensive and the latter in intensive cultivation. This differential surplus is called rent.

DEFINITION OF RENT. Rent may therefore be defined thus—Rent is the differential surplus in the output of a land over the cost of production calculated in terms of the margin of production. This margin is, in extensive cultivation, the land on the margin of cultivation, that is, the land the price of the output of which just covers the cost of production. In intensive cultivation the margin is the point at which a unit of productive factors yields an output the price of which just covers the cost of production. If on three qualities of land, A, B, and C, an equal amount of labour, capital, and organization, worth, say, R.50 be used, and if the output be worth respectively R.100, R.75, and R.50, then C is the land on the margin of cultivation, and the rent of A is R.50 ($R.100 - R.50$), and that of B R.25 ($R.75 - R.50$). This is in extensive cultivation. In intensive cultivation the land is the same, but varying units of productive factors are used. If on a land such varying units of labour, capital, and organization, each unit worth, say, R.50 be used and if, under the operation of the law of diminishing return, the price of the output of the first unit be R.100, that of the second R.75, and that of the third R.50, then the third unit represents the margin of

cultivation, and the rent of that land is R 75, i.e. R 50 (R 100 - R 50) on account of the first unit, and R 25 (R 75 - R 50) on account of the second

CAUSES OF EXISTENCE OF RENT The investigation into the cause why rent arises has led to various speculation. At one time it was supposed that it was due to the difference in the qualities of land. This is obvious in extensive cultivation, but does not apply to intensive cultivation. The real cause of rent is scarcity of land. Because land is scarce, therefore, with the pressure of population, a continuously increasing output is sought to be raised from the fixed quantity of land with the help of a continuously increased amount of the other factors of production. When one factor is thus kept constant the law of diminishing return ultimately operates. This soon creates a margin of production beyond which the other productive units cannot be profitably used on the same land, and forces the producer to take to inferior land where the same process starts. Thus 'the differential surplus is created not only between different lands but in the same land as well.' If land were not limited in quantity the law of diminishing return would not operate, and if this law did not operate the producer would not be forced to go to an inferior land. Thus we find that the ultimate cause of rent is the limitation of the supply of land, and that its immediate cause is the law of diminishing return.

FACTORS AFFECTING RENT From the above it is clear that rent increases with an increase in the output, and with a decrease in the cost of production, provided that the price at which the output is sold remains the same. Or we may say that rent increases directly as the price and inversely as the cost. Rent, therefore, will be affected by all the factors which affect the price or the cost. These may be classified thus—

1 *Improved Methods of Production* These lead to a reduction in the cost of production, or, which is the same thing, with the same cost there is an increase in the output

Such improvements, when applied over a small area, would not materially increase the total supply of the market, and therefore would not affect the price. Therefore, the increased output would fetch a higher total price and, the cost remaining the same, would increase rent. If, on the other hand, the improved methods are applied over very wide areas the increase in the output would be very large, and therefore affect the price in the market. Thus two opposing forces would now come into operation. On the one hand, there would be an increase in the total output, thereby tending to increase the total income and, therefore, rent. On the other hand, there would be a fall in the price, thereby tending to reduce the total income and, therefore, rent. The actual effect upon rent would depend upon the net result of the operation of the two opposing forces. Thus when improved methods are applied over a wide area, rent tends to be lower than when they are applied over a small area, since in the former case an opposite force comes into operation, whereas in the latter case there is no such force.

2. *Improved Means of Transportation.* These lead to a reduction in the cost of transportation and, therefore, in the cost of production of the output in the market. This tends to increase rent on the one hand, and to reduce price on the other. Here also two opposite forces come into operation, and the net effect on rent depends upon the intensity of the two opposing forces.

3. *Increase in Population.* The direct result of this is to create greater demand for commodities and, therefore, higher prices. As such rent rises. But the increased population not only consumes but also produces. As producers the effect of their number is to increase the output and, therefore, reduce prices. This lowers rent. Thus the opposing forces are increased demand and increased supply. Here, on the whole, rent increases, since all persons are consumers, whereas all are not producers, some being consumers only, and some others producing in a different way, e.g. services, etc., without the help of much land.

RENT AND COST OF PRODUCTION In the foregoing paragraphs we have seen that rent depends upon price. We should also know that rent does not normally determine price. The price in the market is fixed in the long run by the marginal cost of production within the limit fixed by demand. This cost does not include rent, rent being what surplus is left over this cost. Thus we see that rent does not determine price but is determined by it. This is what is meant by the sayings, "rent does not enter into the cost of production" "rent is not an element of price but its effect" and "Corn is not high because rent is paid, but rent is paid because corn is high" (Ricardo)

There are, however, certain circumstances in which rent does determine the price. (1) If the owners of land combine together and have monopoly of all available lands, they can force even the worst land to pay rent, which the producer will have to include in his cost of production or supply price. (2) If a land is already paying some rent, say, in producing wheat then in order to divert it for the production of another article, say, cotton, the producer will have to pay at least the rent which it was fetching in the former use. (3) If fresh sources of land are now available which would reduce rent when employed for purposes of production and if by some circumstances these are kept out of production then rent as differential surplus would remain as before, although it should have fallen. In this case, also we may say that a higher rent and a higher price are maintained which would not have been maintained but for these special circumstances which keep out the fresh sources of land.

Although the above considerations of rent have been illustrated by agricultural lands it should be borne in mind that the principles apply equally to other lands as well building land, forest, fishery, mines etc.

Land Tenures.

In India land tenure is mainly of two kinds. The *zamindari* system is that in which the *ryot* or cultivator

holds land from a superior landlord to whom he pays rent. A variation of this system is where the *zamindar*, instead of being one man, is a family or a whole body of villagers, the management being in the hands of a headman called the *malguzar* or *patwar*. He is really the person responsible for the payment of land revenue to the State. The second kind of land tenure is the *ryotwari* system, in which the cultivator holds land directly from the State. It is worthy of note that in India the State is considered to be the ultimate owner of all lands, and private property in land is always subject to the demands—land revenue—charged by the State. Such demands are again of two kinds, viz., permanent and temporary settlements. The permanent settlement dates from 1793, and obtains in Bengal and parts of Assam, Madras, the United Provinces, and Bihar and Orissa. The rest of India has temporary settlement. Under the permanent settlement the land revenue is permanently fixed in amount, and the revenue in rupees remains the same. In temporary settlement the amount of the revenue is fixed for a term of years, 20, 25, or 30, and is increased or decreased on a change in the value of the products of the land.

The advantages of the permanent settlement are—(1) The demand of the State upon the income from land is definitely fixed in amount. Therefore, there is certainty that whatever extra income can be got by improvements will remain with the owner of the land. (2) This tends to stimulate agricultural improvements and introduction of new systems and methods calculated to develop the powers of the soil to their utmost capacity. (3) A prosperous landowning class is likely to develop a prosperous tenantry, for having a fixed demand by the State the owners are likely to limit their demand from the cultivators. (4) The extra amount which is left with the people can support a larger population at the old standard of living or the same population at a higher standard. This leaves greater margin between comparative comfort and distress which tend

to come into being as a result of the Malthusian law of population

The disadvantages of the permanent settlement are—
 (1) The tenantry is squeezed by the landlords, especially as their number has increased through generations and therefore, the share of each at the old rate becomes small. To stop this, various tenancy laws have been passed in all the areas where the *zamindari* system prevails, and this started with the permanently settled areas. (2) In spite of legal prohibition, illegal exactions from the tenants continue. So long as they have little rights on the lands which they cultivate, this is bound to continue. (3) Government revenue from land becomes permanently fixed in rupees. But as the expenditure of the Government increases other taxes are levied. Thus the producers pay an ever increasing tax, while those who live on the income from land pay a decreasing proportion to the Government. (4) The number of middlemen tenure holders between the original landlord and the actual cultivator has increased very much. They enjoy the income from land, but do not contribute anything towards the development of agriculture.

It seems that on the whole the disadvantages of the permanent settlement in India have been greater than the advantages. Therefore, the maintenance of the temporary settlement is beneficial to the country. Here the rent is fixed for about a generation, and the land revenue is determined on the average value of land during the previous period. Also the result of improvements is specifically left out in fixing the land revenue. In 1902 the Government of India laid down the principle of settlement. For *ryotwari* lands the revenue shall never be more than 50 per cent of the net rental. Thus leaves a wide margin from economic rent to the cultivator, and the period is sufficiently long to make improvements and enjoy the fruits thereof. Moreover, no cultivator can be deprived of his tenure except on default in paying the land revenue.

CHAPTER XX

WAGES

LIKE the price of any other commodity, the price of the services rendered by the workers is determined by the forces of demand and supply. The supply is determined by the total number of workers, being subdivided according to the grades of labour.

Marginal Productivity.

The demand is fixed by the value of the services towards production. This value depends upon the productivity of labour. Just as the price of an ordinary commodity is determined by the equilibrium between the marginal demand and the marginal supply, so is the rate of wages determined by the needs of the marginal worker and the marginal productivity of labour. In the case of labour it should be noted that its productivity depends not only upon its own efficiency but also and, in modern organized industries to a large extent, upon the efficiency of organization. This marginal productive efficiency or the price of this marginal product fixes the maximum limit beyond which the rate of wages cannot be raised. On the other hand, the normal standard of living of the worker or the income necessary to maintain it is the minimum limit below which the rate of wages cannot fall so long as the standard of living remains the same. From this it is evident that a change in the standard of living will bring about a change in the productivity of labour and, therefore, in the long run, a change in the rate of wages. Thus a fall in wages reduces the standard of living. This leads to less efficient production and, therefore, to lower wages. On the other hand, a rise in wages, to the extent that the increased income is spent in raising the economic standard

of living increases the productivity of labour and therefore the rate of wages

Factors Determining the General Rate of Wages.

The rate of wages in a grade of labour is fixed at that point at which the total supply of labour in that grade¹ is absorbed. Thus it depends a great deal upon the growth in numbers as also upon the industrial expansion of a country. Sometimes labour participates in the exceptional gains of an industry but this is due less to economic forces than to public opinion. The rate of wages also depends upon the profit of the entrepreneur for the greater the profit the greater is the stimulus to expand industries. Similarly it depends upon the effective capital of the country employed in production. Labour has one immunity from risk. It participates in the extra profit of an industry in the form of bonus etc. but does not participate in its loss in any given year. But it is apparent that it will suffer if the industry employing it persistently suffers loss. In that case the industry must reduce its activity, and thereby throw out a portion of its labour.

If there is free and equal competition between organizer and the labourers the wages of labour cannot, in the long run, be lower than the value in exchange of labour or the price of the marginal product of labour. The causes which determine this value in exchange are—

1 Population. The smaller the population the less is the need to work under unfavourable circumstances to produce the requirements of the consumers. Thus the margin of labour is raised and, therefore, the rate of wages also becomes high.

2 Total output. This is the result of the co operation of all the factors of production. If this combination is efficient the output increases. As wages are a part of this national dividend every increase of it tends to raise the rate of wages.

3 Marginal output. Wages are paid out of the marginal

productivity. All production above the margin contributes towards rent and surplus profit.¹ If, therefore, the proportion of the marginal output to the total output is high, the amount of the output from which wages are paid becomes also high in proportion to the total output. Thus a greater proportion of the national dividend tends to be distributed as wages than in the case where the marginal output forms a smaller proportion of the total output.

4. As industry is limited by capital, and as the employment of labour is limited by industrial expansion, the quantity of capital seeking investment in production has a material effect upon the demand for labour and, therefore, the rate of wages.

If there is free movement of labour from one place to another and within the same grade, the rate of wages within one grade becomes the same. Owing to ignorance, caste prejudices, and unwillingness to leave home, such mobility is rarely obtained in India.

Nominal and Real Wages.

Wages are calculated in terms of money, although there are many remote places in India where wages in kind still prevail. When calculated in terms of money, wages are called *money* or *nominal wages*. The *real wages* of labour consist of the wealth that is obtained either directly or by exchanging nominal wages. Even when there is mobility of labour the tendency to equality operates for real not nominal wages. This divergence between nominal and real wages is due to various causes. The purchasing power of money in two places may vary and, therefore, real wages may be the same while nominal wages are different. The employment may not be regular but intermittent or even uncertain. For example, labour in Bengal jute fields is required for a few months in the year. Therefore, the nominal wages are very high, but these are not earned during the whole year. Again, a worker or his dependents

¹ *Vide* below, Part IV, Chapter xxi.

may have opportunities to earn something in their leisure hours. Some mill labour in this way make *biris*, and the workers in Assam tea plantations get lands on which they can grow vegetables for their consumption or for sale. In this connection the total work in a lifetime is of importance. A miner can work for a less period in the unhealthy conditions under the ground than the agriculturist working in the open fields. So, the high nominal wages of the former and the low ones of the latter may not be unequal real wages. Also the social standing of an occupation may lead a man to a less paying profession than another. That is why the clerks in India earn less than skilled and, in some cases especially in industrial areas, less than even unskilled workers. Sometimes the social position of a man as determined by his caste may not allow him to take up a profession which is better paying and more suitable to him than his hereditary profession. The nature of the associates in a business also affects the wages. A man may not like his associates with whom he will have to work, or the temper of his master and take to another with less nominal wages. Again in one industry the start may be good, but the ultimate prospect of a rise limited while in another the start may be low but the prospect may be good. The latter attracts the abler and the more adventurous workers than the former.

Time and Piece Workers.

The immediate payment of wages may be according to the number of hours of work or according to the work actually done. The former is called *time wages*, and the latter *piece* or *efficiency wages*. In modern times usually the system is a combination of the two in which the worker is paid a certain rate of time wages received according to the number of days of work, but it increases according to an automatic scale if his output is above a prescribed average. This is called the *premium system* and has many varieties.

Earlier Theories of Wages.

Besides the productivity theory of wages there are many others which at one time or another sought to explain the determination of wages. Of these the *subsistence theory* or the *iron law* of wages says that the rate of wages is always equal to the minimum subsistence which is required to maintain the worker and his family. Of course, the standard of living varies, but the minimum always tends to be the rate of wages. Walker's *residual claimant theory* says that wages are what is left out of the national dividend after paying rent, interest, and profit. This can be so only in co-operative production where labourers as owners hire the other agents of production. With the development of co-operative production this theory may come into operation in future. But as things stand now the entrepreneur and not the worker must be said to be the residual claimant.

The most important theory, which at one time was advocated by very distinguished economists, is the *wages fund theory*. This theory as finally developed states that the demand for labour consists of a definite amount of capital which is devoted to the payment of labour, that the supply of labour consists of a definite number of labourers who must work for wages, and that the rate of wages is fixed by competition. Thus, according to this theory, if the capital is divided by the number of labourers the rate

of wages can be found.
$$\text{Wages} = \frac{\text{Capital}}{\text{Labour}}$$
 The mistake

of the theory is that there is no such definite amount of capital employing the workers, but it keeps on varying according to the latter's productivity. Also it is not capital which pays labour, but labour pays itself out of its own productivity, capital only advancing wages during the process of production, and recouping itself out of the final product.

This was the accepted theory from 1820 to 1870. It originated with Malthus and, with various modifications and developments, accepted by James Mill, John Stuart

Mill, Fawcett, and Cairnes It was attacked by Longe, Thornton John Stuart Mill (in 1869 he gave up his support), and Sidgwick None of the opponents of the theory could substitute in its place any better theory of wages till in 1876 Walker came with his productivity theory of wages This is the theory which is now accepted as determining the rate of wages

Peculiarities of Labour as an Agent of Production.

In contrast with the other factors of production, labour has certain peculiarities which affect it only and not other factors ¹ The first is that the worker sells his work but retains property in himself This is, of course, good on the whole But there is an important defect, viz, it can never be the interest of the entrepreneur to train and improve labour by investing capital on labour, since the effects of such improvements may not come to him, the trained worker being free to move away to any other business unit Therefore, the training and improvement of the worker is left with his parents and, therefore, depends upon their limited power of foreseeing the future, and their individual willingness or otherwise to sacrifice themselves for the sake of their children The greatest temptation to the parents is to stop the son's training after a certain stage, when his further training is an immediate drain on their limited purse and when his employment would bring enough to cover the expenses of maintaining him The effect of this is cumulative from generation to generation Worse fed and trained sons will be less efficient producers and, therefore get less in wages Getting less they can give still worse food and training to their sons And thus the process goes on

In the second place, the seller of labour must deliver his labour, being personally present himself on the spot The seller of the services of capital land, and organization may work from another place The owner of capital may invest

¹ Marshall *Principles of Economics* Book VI Chapters IV-V

it in any part of the world, and yet sit at home. Similarly, the landowner need not stay on his land. The organizer may organize from another place. But the worker must be present where his work is sold. In other words, mobility of labour and mobility of the worker are convertible terms. Therefore, the questions of wholesome situation, nature of associates, etc., arise with him. The more disagreeable the incidence of an occupation, the higher must be the wages necessary to attract labourers. This, however, has no cumulative effect unless there is deterioration of the worker's health, and consequent fall in productivity and wages.

The third peculiarity is that labour will not keep, that is, labour power is perishable. The time lost in unemployment can never be made up. In the case of the other factors, especially of land and capital, if time is wasted by unemployment the life of the factor is, so to say, increased by this period, and it can be worked for a longer period. But in the case of labour this is not so. The life of a labourer is not necessarily increased by the period of unemployment. The period thus spent is lost for ever. There is, however, no cumulative effect of this peculiarity unless during the period of unemployment the standard of living is so reduced as permanently to affect efficiency.

The fourth peculiarity is due to causes which are not inherent nor permanent. Labour is at a disadvantage in bargaining for its remuneration because it has not sufficient reserve fund to fall back upon and, therefore, has to yield to the entrepreneur in a contest for higher wages. This is attempted to be remedied by trade unions. The effect of this disadvantage is cumulative, because it leads to acceptance of lower wages and, therefore, to lower efficiency.

The last peculiarity is that new supply of labour is of slow growth. Labour requires to be trained for a trade. Therefore, the supply of labour in any trade depends upon its prospect one generation before, when the rising generation was being trained for a profession. It also depends

upon the capacity of the workers' parents to judge of such prospects in advance. The great difficulty in such estimate is that economic conditions keep on changing and are, therefore, difficult to forecast.

Trade Unions. ↓

The workers being weak in bargaining capacity, it is necessary for them to combine together in order to compel the entrepreneur to pay them the wages determined by the marginal productivity of labour. This organization would normally come to an end when the rate of wages had reached that limit. Thus the rate after such increase will remain fixed unless the marginal productivity is also raised. In order to do this it is necessary for labour organizations to see that the increased wages got by the first process are so spent as to increase the productive efficiency of labour. If this is done, a continuous increase in wages becomes possible. By one kind of organization the wages are raised up to the limit fixed by marginal productivity, and by another the wages are so spent as to increase this productivity, thus creating a margin for further raising wages. The first type of organization is the trade union, while the second type is the co-operative stores.

A trade union may be defined as "a continuous association of wage-earners for the purpose of maintaining or improving the conditions of their employment".¹ The history of the growth of trade unions shows two types of development, both of which persist. The first type of trade union aims at reducing the hours of work, increasing wages, securing safe, healthy, and pleasant conditions of work, and defending individual workers against arbitrary and unjust treatment by the employers of labour. The means of achieving these ends are protective and benevolent. The former is to collect funds in order to support those of the members who fail to secure employment, except on terms which are against those laid down by the trade union.

¹ Mr. and Mrs. Webb *The History of Trade Unionism*

Thus collective bargaining by it is substituted for individual bargaining by the workers. In order to achieve this the trade union is ready to resort to strikes and, during such compulsory unemployment, support the members. The benevolent means is to grant provident fund benefits to members in need, and to attempt, in various other ways, to ameliorate the condition of the members.

The second and later type of trade union is more militant in attitude, and more political than economic in outlook. Their main object is to transfer all employing and capitalistic functions to the State (Collectivism or State Socialism) or to the organizations of the labourers themselves (Workers' Union). Sometimes their object is to secure the existing machinery of government (Syndicalism), and sometimes it is to break up that machinery in order to replace it by another (Communism), or to have no such machinery at all (Anarchism or Nihilism).

The trade union fixes a minimum rate of wages for each grade of labour, no member being permitted to accept any rate below this. If some cannot find employment at this rate the trade union funds support them. The means by which this rate is forced upon the employer are strikes, that is, complete stoppage of all work under the control of the trade union.

It can do the greatest benefit to the workers by simultaneously attempting to raise wages up to, but never more than, the marginal productivity of labour, and to raise the economic standard of living with the additional income secured by the first process.

TRADE UNIONISM IN INDIA. The organization of trade unions in India is yet very loose, and they have not yet passed through the initial stages of working in union, and thus securing the recognition of the Government and the employers. Some unions are so only in name. Most of them are organized and worked by persons who are not labourers themselves. The total number of trade unions in India is 170, and their members number $2\frac{1}{2}$ crores.

There are trade unions for factory labour in Calcutta, Bombay, Ahmedabad, etc. The All India Postal and Railway Mail Service Association is a well organized body, as is also the All India Railwaymen's Unions Federation. Many of these trade unions have worked for a central organization called the All India Trade Union Congress which has affiliated unions all over the country. The total number of its members is about one lac.

The increase in wages in India should be judged from two points of view, agricultural and industrial wages. According to the report of the High Prices Inquiry Committee the index numbers of nominal and real wages are (1873 = 100)—

	Nominal wages		Real wages	
	1895	1912	1895	1912
Agricultural labourers	105	189	103	138
Skilled urban labourers	106	183	104	134
Unskilled urban labourers	108	198	106	116

There is little reliable record of the subsequent change in agricultural wages. The industrial wages have moved thus (1913 = 100)—

	Year	Wages	Wholesale prices
Bombay mills	1926	232	150
Calcutta jute mills	1925	150	169
Bengal mines	1925	150	169
In the United Kingdom	1926	180	173

The increase in Bombay is due, to a large extent, to the activities of the trade unions, and that accounts for the very substantial increase in the real wages.

CHAPTER XXI

INTEREST AND PROFIT

INTEREST is the price which is paid for the services of capital. Capital, as we know, is the result of postponing the immediate consumption of wealth for future use as an agent of production. The owner may use the capital himself or he may not be able to put capital to its proper use and, therefore, he lends it to others who are able to do so. In either case capital earns an income by participating in production. Because it is a necessary factor of production it gets a share of the national dividend. The demand for capital consists of the productive use to which it can be put. Interest is thus fixed on the one hand by the productivity of capital, and on the other by the inducement that is necessary to be offered to the person who postpones the immediate consumption of his wealth, and waits for a future income. Thus *interest is really the price for waiting*. If the present value of an amount of interest to be earned by waiting is not at least equal to the utility to be obtained by immediate consumption, capital will not be saved at all. This present worth varies with different individuals, just as the value of wealth does. Therefore, the same inducement by way of interest will make some people save more than others.

Why Interest is Paid.

The justification of interest lies in the fact that capital helps to produce and, therefore, adds to the output. If no interest were paid there would be no inducement to save, and as wealth always gives some utility in consumption it will be consumed rather than saved, except as a provision for the future. Moreover, without interest much of the capital will remain in the hands of inefficient men, and thus produce less than now. The very fact that the borrower

1. *is not a pure factor?*

pays an interest at which the owner of capital is willing to lend shows that the former can get more out of it than the latter

Determination of the Rate of Interest. (*economic*)

The rate of interest is determined by the maximum limit of the productivity of capital beyond which the borrower would not pay or of the utility which the borrower gets out of it, and the minimum limit of the cost of saving that is, utility which could be derived out of it by the owner if he had consumed instead of saving. This interest is pure economic interest. Sometimes it is seen that interest varies at the same time and place. This is due to the element of risk and trouble and, economically speaking, should not be called interest. For example, the Government of India borrows at $4\frac{1}{2}$ per cent, but the market rate of interest is about 10 per cent, or the moneylender's rate is 18 or 20 per cent, and even more. This variation is due to greater risk involved in lending money to a private person the trouble of keeping accounts etc.

Taking the specialized capital of modern times, viz., tools, machinery and the plants, we may say that demand is determined by their marginal productivity, that is, what they can add to the output when applied under the least favourable circumstances. Their supply price must cover the cost of producing them, and compensate for the waiting which is inevitable between the time when the consumption of the original wealth out of which they are made was postponed and the time when they yield income by actually being used in production.

In India interest varies a great deal for example in Bengal it varies from 36 to 75 per cent, in the Central Provinces from 6 to 100 per cent, and in Madras from 6 to 36 per cent. Before the War the bank rate for money lent on good security used to be 4 or 5 per cent. During and after the war it went up to 12 per cent or more. Now it is slightly lower than that. The rate seems to be kept up

now by the large demand of capital for industrial purposes. Moneylenders always charge a very much higher rate, and can get it because of the want of any other lending body to compete with them, and because the security on which they lend is not very good. In some places, e.g. the Punjab, Chhotanagpur, Bundelkhand, they cannot get the borrower's land sold except to other agriculturists¹ and, therefore, their only security is the prospective harvest. In 1918 the Usurious Loans Act gave discretion to the courts of law to allow only reasonable interest, and usually it is taken to be between 12 and 18 per cent. This does not help the borrower in the absence of any competing body that will lend money. This law is usually evaded by the moneylender who compels the borrowers to sign a document acknowledging a bigger debt than the actual, so that in case he has to go to the court he will get the larger sum at the low rate, and thus really obtain the lower sum at the higher rate. This has the additional disadvantage of putting the borrowers more effectively into the clutches of the moneylender. In the absence of any other lending body they have little option left in the matter. However, the growth of co-operative societies has steadily, though slowly, brought down the rate of interest in the locality where they have flourished.

The Discount Rate.

The interest on loanable capital or money in the market is called discount. In India this rate has a seasonal variation. This is due to India's being primarily an agricultural country. The harvest of the *kharif* crop moves towards the market in December-January, while that of the *rabi* crop moves in May-June. For financing this movement cash is required to be sent from the important towns to the interior. This extra demand for money raises the discount rate in the first half of the year. In the second half, this demand disappears, and a good portion of the

¹ The Land Alienation Acts.

cash that moved to the interior gradually returns in payment of the purchases made by the villagers

Profit.

Profit is the price of the services of the entrepreneur, which consist of regulating, guiding, and combining the other factors of production. But in modern industrial organization the entrepreneur undertakes the risk of the business as well. This risk has two aspects, viz., the personal risk that his debtors may fail to make payment, and the trade risk that arises out of changes in the conditions of the market, mistakes made in forecasting the forces operating in the market, and speculation. Also he is the residuary claimant receiving what is left after paying the other factors which he hires on contract. Thus modern profit can be analysed into compensation for risk, remuneration for the entrepreneur's services, and surplus (2)

The entrepreneur who does not undertake any risk is really a labourer. For example, the hawking cobbler is an entrepreneur, while the journeyman cobbler is a labourer. When trade risk is absent profit consists of the remuneration for the services of the entrepreneur. If, in the above illustration, the wages of a journeyman cobbler increased the marginal hawkers would become labourers, and on an increase in the income of the hawker the marginal journey men would become entrepreneurs. Thus there is a close relation between profit and wages. If profit rises or wages fall many workmen will become entrepreneurs and if wages rise and profit falls the contrary will be the case. Thus the minimum profit is what the entrepreneur could earn as a workman.

Risk When trade risk is present profit consists of the remuneration for the services of the entrepreneur and compensation for the risk undertaken. This compensation varies according to the extent of the risk. Therefore, whatever increases the risk of a business increases profit,

and whatever diminishes it reduces profit. In modern organizations there are various means which help to reduce the extent of risk involved in a business. There is the system of insurance by which the risk from death, fire, etc., is taken up by other bodies and, therefore, the burden on a particular entrepreneur becomes less. The extension of the credit system has also helped him. We have seen how credit transfers capital, and helps the producer. Also the mobility of a *hundi* increases its security. All these processes reduce the entrepreneur's risk. A just and equitable administration of the law reduces risk inasmuch as it makes for certainty in business relations, and secures enforcement of contracts or damages for loss suffered by breach of contracts. The growth of business morality has also reduced the risk. If optimism prevails among business men they are likely to underestimate the risks of a business. Although this does not actually reduce the risk, yet it keeps down profit inasmuch as the entrepreneur, having underestimated risk, will be satisfied with a low compensation for it. Again, it is a human frailty to overestimate one's business capacity and, therefore, keep low margin for failure. This also makes the entrepreneur think of less risk than the actual and, therefore, lowers the compensation for risk.

REMUNERATION OF ENTREPRENEUR. The second item in profit is the remuneration for the entrepreneur's services. The value of this can be measured by the wages which he can earn as a worker. This remuneration is fixed by the forces of demand and supply in the market. The demand consists of that of the products of the entrepreneur's business. It depends upon the number of population. If he produces for a small village or a big town this demand for his services would vary accordingly. If the same community which gives him the buyers of his product be very wealthy his sale would be larger and, therefore, his remuneration also greater. If instead of producing for the home market he exports his products in large quantities, his profit

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would increase accordingly. If there is improvement in the means of communication and transportation, the market for his products widens and, therefore the demand for his services and his profit increase. In this case it may happen that such improvement helps others to extend their market at his cost, in which case he loses in profit, but the others gain. A reduction in customs duties operates in the same way. Such a fall in the import duties of other countries and in the export duties of his own helps to extend the market for his products while the contrary will be the case with a fall in the import duties of his country, and in the export duties of other countries. Production on a large scale means creation of demand for his services. On the other hand, if there is more direct touch between the producers and the consumers, the demand for the services of middlemen entrepreneurs is reduced. This tends to be the case with the growth of co operative production. Finally, situation also affects the demand for the services of the entrepreneur. There are certain things which are bought daily, and in the neighbourhood, e.g. fresh vegetables, milk, etc. This increases the number of the entrepreneurs, although not necessarily the total demand for their services in the whole country.

On the other hand, the supply of the services of the entrepreneur depends upon the wages which he can earn as a workman, and the extent of the risk which he is called upon to undertake. This is the minimum which he must earn if he is to be retained as an entrepreneur. In practice this minimum also tends to be the maximum if there is effective competition among the entrepreneurs. In India, owing to the paucity of their number in higher grades, competition is not very keen. Again, some entrepreneurs in spite of lower efficiency, may gain an advantage over more efficient ones by virtue of their command over capital or of their having inherited a well established business. In the long run, however, their efficiency and risk would determine their position as entrepreneurs.

THE SURPLUS. The third element of profit is surplus. The surplus arises out of the fact that different entrepreneurs even of the same grade work in different circumstances. Some may have special opportunities to have a command over large capital, others over an already well organized business. One may be situated in a good locality, e.g. a man may have a shop in the crossing of four roads in a wealthy and fashionable locality, or may own a shop which has built up a goodwill among customers who spend lavishly. (All these tend to yield an extra profit to the entrepreneur over and above the compensation for the risk undertaken and the remuneration for his services.)

This surplus is often called the entrepreneur's rent. It is, in some respects, similar to rent. (Both surplus profit and rent increase with favourable circumstances) as they permit a greater margin between the price at which the output is sold, and the cost of producing or supplying it. (Both admit of being capitalized,) the rent of land by the average of several years, usually 20 years in India, and profit by the value of the goodwill of the business. (Neither enters into the marginal cost of production or the supply price) and (both are the results of price,) being determined by it.

Profit increases with increased demand for goods and decreased cost of production. In this way it may rise above the minimum, but if there is competition among the entrepreneurs this excess can be only temporary. A permanent excess above the minimum is possible only in exceptional circumstances, e.g. monopoly, imperfect competition owing to ignorance, secrecy in business, too rapid development in an industry for competition to keep pace with it, etc.

Thus inequality of profits is due to the difference in the risk and the favourable circumstances. But the remuneration for the entrepreneur's services forms the largest part of profit. Yet it must be distinguished from wages proper, because of the other two elements.

Profits and Turnover.

It is worthy of note that the calculation of profit may be made in two ways viz —(1) profit on a given transaction bargain profit or the rate of profit, and (2) profit over a period of time or the turnover profit. The former is what is earned on each transaction e.g. by the sale of one unit of the output. The latter is what is earned over a period of time through repeated sales. Thus the rate of profit may be small and the turnover large, or the rate high and the turnover small and yet total profit may remain the same. The total net profit is the bargain profit multiplied by the number of turnovers.

Profit and Price.

It is sometimes said that profit does not enter into the marginal cost of production and, therefore, does not determine it but like rent, is determined by price. This is not correct for the whole of profit. The remuneration for the services of the entrepreneur as also the compensation for the risk which he undertakes must be covered by the price in the long period market, otherwise the entrepreneur will become a wage-earner. Therefore, the marginal cost must cover this part of profit. But surplus profit is different. As it is the result of the conjuncture of favourable circumstances, and as the price is determined by the marginal cost of the output, i.e. output which is produced in the least favourable circumstances, surplus profit does not determine price, but is its result, exactly as rent is.

In India agricultural profits were more or less steady in former times, because the market was limited to the neighbourhood, and therefore there was greater certainty of the price, which again was customary. This meant that profits varied widely all over the country. In other words, the country was divided into non-competing areas. But with the development of the means of communication and the increase in the security of life and property, the market has widened and, therefore, profits under competition tend

to be uniform. But this has linked the local producer with the whole country and, in the production of some commodities, e.g. jute, cotton, wheat, with the whole world market. Thus the state of the market can now be less certain, and therefore profits vary from time to time according to the circumstances of the wider market. The result thus has been the substitution of profit varying from time to time with the same entrepreneur in the place of profit varying from place to place, and therefore steady profit for the same entrepreneur over a long period. The same considerations also apply to smaller industries of the country, besides agriculture.

The case of manufacturing and large scale industries is different, as they can grow only when the market is wide. During the latter part of the war, and the period just after it, there was a boom of industrial expansion, as prices had gone up very much in India and in the world. But since 1922 there has been a slump owing mainly to the depression caused by a sudden reduction of India's war exports, deflation and, therefore, fall in prices in India and in the United Kingdom, the financial crisis in Japan, and the breakdown of credit in the Continent of Europe, which has very much reduced the purchasing power of the people there. In several industries the recent fall in the profits is due to the inflation or watering of capital. As the price rose up to 1920 many industries wrote their capital in goods, buildings, machinery, etc., as of higher value without a corresponding increase in the quantity of the assets. Thus the same total profit is now calculated on an artificially swollen capital value, and therefore the rate of profit or dividend seems to be small.

which simply makes wealth incapable of satisfying wants. This consumption may be direct when we satisfy a want at once with wealth. It may be indirect when we postpone the immediate consumption in order to utilize the wealth for future production which is expected to satisfy wants. The former is spending and the latter saving. Here we are concerned with spending which is consumption, and not with saving which creates capital. It is evident that the maximum possible consumption of a nation consists of the total wealth or the national dividend. This leaves no margin for saving, paying taxes, spending on charity, etc. Thus, normally, consumption is somewhat less than the national dividend which fixes the outside limit beyond which it can never go except temporarily, e.g. by borrowing.

The Law of Consumption.

We have seen that in economics the mere desire to have a thing is not demand. It must be backed by the means and the willingness to undergo a sacrifice to obtain that thing. The demand for all articles is not equally strong nor is it the same for all persons. The articles of consumption may be classified into necessities, comforts, and luxuries, according to the degree of their importance as items of consumption. But the exact line of demarcation between the divisions is naturally difficult to draw. Necessaries may further be subdivided into bare necessities, efficiency necessities, and conventional necessities. Bare necessities are those articles the consumption of which is essential for the continuance of human life; efficiency necessities, those the consumption of which is essential to maintain the human agent in the requisite state of economic efficiency; and conventional necessities, those the consumption of which is required by the custom of the society in which one moves. These last would come under comforts or luxuries in another society, but inasmuch as their use is obligatory in a particular society they are

PART V

CONSUMPTION

CHAPTER XXII

WEALTH AND SATISFACTION

WE have seen that the ultimate purpose of all production, in fact, of all economic activity, is consumption or satisfaction of wants. Wealth is the means by which satisfaction is obtained. This satisfaction is not to be wholly identified with well being, for well being may be achieved by things other than wealth, for example, health, friendship, love etc. (Wealth, therefore, contributes towards well-being, although it cannot be identified with it). The value of wealth in bringing about well being is great indeed. In Chapter II we have studied the kinds of human wants. These have gone on expanding with the growth of civilization, and have contributed not only towards the increase in the physical comforts of man, but also development of the mind. The basis of all civilization is material, and no nation can achieve success in the higher regions of the mind if all its energy is devoted to satisfying the primary needs of man, e.g. hunger, shelter, clothes etc. The progress of science, fine arts as also material progress depends to a great extent upon this freedom of man. The art of living well is primarily based upon the art of living comfortably and with minimum effort. Thus wealth is also a means to the higher ends of life. The difficulties arise when the means is confounded with the end and pursued as such.

The Meaning of Consumption.

The consumption of wealth gives the required satisfaction. Thus consumption is distinguished from destruction

which simply makes wealth incapable of satisfying wants. This consumption may be direct when we satisfy a want at once with wealth. It may be indirect when we postpone the immediate consumption in order to utilize the wealth for future production which is expected to satisfy wants. The former is spending and the latter saving. Here we are concerned with spending which is consumption, and not with saving which creates capital. It is evident that the maximum possible consumption of a nation consists of the total wealth or the national dividend. This leaves no margin for saving, paying taxes, spending on charity, etc. Thus, normally, consumption is somewhat less than the national dividend which fixes the outside limit beyond which it can never go except temporarily, e.g. by borrowing.

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necessaries for the members of that society, e.g. hat and tie in Europe, cap or turban in India

In this connection an existing misconception requires to be corrected. Usually it is thought that the articles of consumption as such are classified into the above categories. It is often supposed, for example, that wheat is a necessary thing, motor-car a comfort, and scents a luxury. But this is incorrect. To the busy doctor a motor car may be necessary inasmuch as his efficiency, judged by his capacity to attend to a large number of patients may increase with the car. Thus the first point to be noted in this connection is that the classification does not apply to the articles of consumption as such. It is always in reference to the particular consumer. What is luxury to one consumer may be necessary to another.

Nor is this relation to the individual consumer fixed and unalterable. With the change of time and, therefore, of circumstances there may be a change in the classification of the articles of consumption, even in reference to the same individual consumer. Thus if the doctor, in course of time, develops a clinic, and chooses exclusively to attend it, a motor car may not now be necessary, and may be a comfort or luxury.

Similarly a change in the place may alter the classification. For example, if the doctor moves to a small village situated on a road, but if the village has only very narrow and crowded lanes as means of communication within it, a motor car may not be necessary, but a pure luxury for pleasure drives along the road.

Then, again, the units of the same article are to be taken separately for the purpose of this classification. The whole quantity of the same article consumed by an individual need not, and, in most cases, would not come under the same category. Thus a portion of the wardrobe of a rich man would be necessary, another portion comfort, and a third portion luxury. This would be so even when we take the units of the same item in the wardrobe.

the two aspects obviously lies in efficiency. When we talk of production we judge it by its efficiency. Similarly when we talk of consumption we should judge it also by its efficiency. Hence the common measure in our classification of human consumption must be based upon the common principle of efficiency.

Here it should be remembered that the notion of the standard of consumption or living as understood by economists is somewhat different from that in the popular mind. According to the latter a higher standard of living invariably means a greater multiplicity of wants satisfied with little reference to its reaction upon the productive efficiency of the consumer. In economics for reasons given above efficiency is the pivotal point of the standard by which all economic activities including consumption are to be measured. Therefore (when we speak of a higher standard of living in economics we should mean a standard of living which generates in the consumer conditions of superior productive efficiency).

CLASSIFICATION OF NECESSARIES, COMFORTS AND LUXURIES. If the above be kept in view it is not difficult to formulate a common standard of measurement by which we can classify the articles of human consumption and the principle of which will be fixed for all times, all places and all individuals or groups of consumers. This standard of measurement is based upon efficiency as understood in economics and the classification into necessaries, comforts and luxuries depends upon the increase or decrease of efficiency with the consumption or deprivation of the articles of consumption. Thus a necessary unit of an article of consumption in a group—or ideally in an individual consumer—at a given time and a given place will be that unit of it the consumption of which increases the productive efficiency of the consumer and the deprivation of which decreases his efficiency. An article in similar circumstances will be a comfort if its consumption does not increase his efficiency but its deprivation decreases his efficiency. An

article will be a luxury if its consumption and deprivation do not increase and decrease, that is, do not affect, his efficiency. If, for example, the consumption of a certain unit of wheat increases a man's economic efficiency, and if its deprivation diminishes his efficiency, that unit of wheat is necessary for that consumer at that time and place. Similarly, if the consumption of a certain unit of tea does not increase his efficiency, but he is so addicted to it that he cannot properly work without that unit and, therefore, its deprivation reduces his productive efficiency, then that unit of tea is a comfort to that consumer. If an additional pair of shoes does not increase the productive efficiency of the consumer, and if its deprivation does not reduce his efficiency, then that pair of shoes is a luxury to that individual consumer.

The above illustrations are deliberately chosen to bring out another point connected with the standard of measurement. A fundamental law of consumption is the law of diminishing utility, which is almost of universal application.¹ Therefore, a standard which seeks to measure and classify consumption must accept that law in its classification. This vital feature is inherent in our standard of measurement adumbrated above, for (as the utility of the same article diminishes with the number of units consumed by the individual, so does the classification of those units vary according to our standard.)

(Thus the category into which a particular article can be classified is determined by four variable items, viz., the individual consumer, the particular unit of the article, the time, and the place.) It is worthy of note, however, that the above classification deals with the utility of consumption, and not its welfare or social value. To the extent that these two are not the same—as pointed out in the beginning of this chapter, they are not necessarily or always the same—our standard applies to the individual valuation and not to social valuation.

¹ *Vide* below, Part V, Chapter XXIII.

We may now conclude by formulating the law of consumption in the following way—

A unit of consumption is a necessary comfort or luxury according as its consumption and deprivation bring about respectively an increase and a decrease no increase and a decrease or no increase and no decrease in the productive efficiency of the particular consumer at a given time and a given place

CHAPTER XXIII

MEASUREMENT OF WANTS

HUMAN wants are subjective or abstract and, therefore, cannot be physically measured. But according to the intensity of his wants a man is prepared to undergo some sacrifice. This sacrifice is the measure of the wants. Like want, sacrifice is also subjective or abstract, varying with each individual and with the unit, time, and place. But the sacrifice or effort is first exchanged for money, and then that money is spent on things or services to satisfy the wants. Thus in modern societies money or wealth forms the measure both of wants and of sacrifices.

The Law of Diminishing Utility.

Taking any one commodity which can satisfy a want, we find that all the units do not give equal satisfaction. The reason is that the want of a man in regard to the same commodity varies even at the same time and place. This is due to the variation in the degree of intensity of a want. When a man is very thirsty a cup of water is of great utility, since the intensity of his thirst is great, and the water satisfies that. If a second cup is given to him his satisfaction from it is less than that from the first cup, because by the time the second cup is used the most intense want in regard to thirst has been already satisfied by the first cup of water. In the same way, taking any particular want of man, the more the units of a commodity which a man is given the less is the utility which he derives from the consumption of an additional unit of the same commodity. He ceases to consume any more when the utility in this way reaches zero if it is given free to him. But if he has to pay for it he ceases to consume more when the money value of the utility derived from the next unit is less than the price which he has to pay for it. This is

called the law of diminishing utility. It may be stated thus—Every additional unit of a commodity tends to bring to the consumer an amount of utility which is less than what was given by the preceding unit. This tendency may be counteracted by an (increase in the intensity of his wants,) e.g. when the number of his dependents increases, or by a change of time, e.g. want for more warm clothes in winter, or by a change of place e.g. want for more warm clothes if he goes from India to England, or by a rise in income when by the very law of diminishing utility, his marginal utility from money diminishes and, therefore, the utility of the commodity at the old margin becomes greater than the price, i.e. money, which is paid for it.

Again, (the same commodity may serve several purposes,) e.g. water may be used for drinking, cooking, washing, cleaning, etc. Here the law of diminishing utility operates in each case, and the margin in each case must be the same in order to secure the greatest utility out of a given quantity of the commodity.¹ Here we find that different wants in regard to the same commodity compete among themselves.

Further, with a given income a man has to satisfy several competing wants. Here the law of diminishing utility operates in each line of expenditure, and the greatest total utility can be obtained only when expenditure along each line has been so pushed that the marginal utility in each case is the same.¹ This is called the law of equi marginal utility. It may be stated thus—In distributing the income for satisfying a specific number of wants the maximum total utility is obtained only when the marginal utility in all cases is the same.

The law of diminishing utility says that with an increase in the quantity of a commodity which a man has, the utility of an additional unit grows less. This means that a man will be prepared to pay less for a commodity as its quantity increases or more for it as its quantity diminishes. This

¹ *Vide ante*, Part I Chapter III on Margin in Economics

is called the law of demand according to which the price which a man is willing to pay—the demand price—varies inversely as the quantity of the commodity which he already possesses. Thus a definite relation is established between the price and the quantity demanded. Here we study the variation in the price as the cause, and that in the quantity demanded as the effect. The change in the latter in response to that in price is not uniform for all commodities. In the case of some commodities the decrease in utility as a result of an increase in the quantity possessed is so great that the man's demand price falls rapidly. If so, then a comparatively small rise in the market price is likely to reduce the quantity demanded to a substantial extent. On the other hand, the decrease in utility as a consequence of an increase in the quantity may be so small that a substantial rise in the price does not materially affect the demand. In this way demand for a commodity may be elastic or inelastic. The demand is said to be elastic when a given variation in price brings about a proportionately greater variation in the quantity demanded, and it is said to be inelastic when a given variation in price brings about a proportionately less variation in the demand. Thus if a 50 per cent rise or fall in price leads respectively to a 100 per cent fall or rise in demand, it is said to be elastic. If a 50 per cent rise or fall in price leads respectively to a 25 per cent fall or rise in demand, it is said to be inelastic. If the change in demand is in exact proportion to the change in price, e.g. if a 50 per cent rise or fall in price leads respectively to a 50 per cent fall or rise in demand, it should be called neutral.¹

The elasticity of demand varies with all the factors which affect the law of diminishing utility, viz., the individual, the unit, the time, the place, and his income. It also varies with the nature of the commodity and its price. If the

¹ This case is not contemplated in most books on Economics. But it should be done, and a name given to it. This logically follows from Marshall's study of Consumption, and his application of the laws of Production to Consumption.

commodity is a necessary thing, the utility derived from it is great and, therefore, its demand inelastic, while a commodity which is a comfort or luxury has less utility and, therefore, its demand elastic or neutral. Also the elasticity is affected by the price. If the price is very low, e.g. of salt, the quantity already consumed having reached the level of satiety, even a substantial fall in the price is not likely to induce the consumer to buy much more of it. On the other hand if the price is very high and therefore, the existing unsatisfied demand is very great, a small fall in the price is likely to increase the demand substantially. Thus elasticity of demand varies directly with the price, it being great with high price and small with low price. In India demand in general is rather elastic owing to low average income of the people. Thus there was a substantial increase in the consumption of salt after the reduction of the tax on salt in 1907.

Consumer's Surplus. = Total Utility - Marginal Utility

It should be noted that according to the law of diminishing utility, the satisfaction of each subsequent unit diminishes and, therefore at the margin the lowest satisfaction derived from any unit consumed is balanced by the price paid for it, that is, the demand price becomes equal to the market price. But the price of all units of the same commodity is the same in a given market. Therefore, on all previous units of consumption above the margin the consumer derives utility the money value of which is greater than the price which he pays. In other words, the demand price for the previous units is greater than the market price at which he buys them. The excess of the former over the latter is called the consumer's surplus which (as Marshall puts it, is the excess of the price which a man is prepared to pay for a unit of the commodity rather than go without that unit, over that which he actually pays); i.e. the excess of the total utility derived from all the units over the marginal utility multiplied by the number

of units purchased. It is apparent, therefore, that the consumer's surplus depends upon the total utility and the marginal utility, the former determining the total gain, and the latter (multiplied by the number of units) the total sacrifice to be made to get those units. Hence the consumer's surplus varies directly as the total utility and inversely as the marginal utility.

It is worthy of note that marginal utility is no index to total utility. If there is prudent expenditure the marginal utility must be the same in all lines of expenditure, because of the law of equi-marginal utility. But the total utility depends upon the law of elasticity of demand. If the demand is elastic the total utility is small as the demand falls rapidly with a given increase in the price and, therefore, the margin is reached quickly. On the other hand, if the demand is inelastic, the total utility is large, since the demand falls slowly with the same increase in the price and, therefore, the margin is reached later than in the case of elastic demand. Thus with the same margin and varying utility derived from the units of consumption, the total utility is greater in the case of those commodities which yield greater satisfaction from the previous units. This is so in the case of the necessaries which satisfy more urgent wants and, therefore, yield greater utility than comforts or luxuries, which satisfy less urgent wants and, therefore, yield less utility.

By studying various family budgets Engel came to the conclusion that the distribution of the expenditure over the various articles of consumption varies according to the income of the family. This is called Engel's law of consumption. It was found that with an increased income the proportion which is spent on food diminishes, that on clothing, rent, fuel, etc., remains constant, and that on the rest—mainly comforts and luxuries—increases. This does not mean that the total expenditure on food diminishes. The total expenditure increases, but does not increase in the same proportion as the increase in income.

Therefore, the proportion of income now spent on food diminishes

The income of an average factory worker's family at Bombay is expended thus—Food 56·8 per cent, clothing 9·6, house rent 7·7, fuel and lighting 7·4, and the rest 18·5

Method of Spending and Prices.

The satisfaction which a man gets out of a certain income depends upon two factors, viz., the method of spending and the prices of what he buys for consumption. In order to get the maximum satisfaction he should be able accurately to calculate the utility which is likely to be derived from his purchases. He should be able to compare different wants so that he may distribute his income to their satisfaction in such a way as to obtain the same marginal utility in each case. Again, wants do not all arise at the same time. Some are present, and some appear in future. A man is apt to exaggerate the importance of present wants and underestimate that of future ones. The satisfaction will be greater if he can properly assess the value of all wants, present and future, and adjust them in such a way as to give each its due importance in his expenditure. Also (some persons have the knack of finding out the exact thing which will satisfy their want, while others fail in this, and are carried away by the fashion of the time or the external appearance of a thing, or the manner in which an article is pressed upon their attention by the trader.) Some persons have the capacity to bargain and get the desired thing at a lower price than that at which others buy it. Thus the method of spending or distributing the income in the satisfaction of various wants is an important factor in securing the maximum satisfaction possible to get out of a definite income. The other factor is the level of prices. With higher prices an income can buy less of things and, therefore, give less satisfaction than when prices are lower and, therefore, more things can be bought with

the same income. Thus the satisfaction derived from a given income tends to vary inversely as the level of prices.

Sometimes spending is contrasted with saving, and some people advocate spending against saving, and others saving against spending. There is really no such conflict, for both are necessary in life. It is true, indeed, that of a given quantity of the national dividend, if more is spent, less can be saved, and if more is saved, less can be spent. Spending creates demand for things while saving helps to produce them. If spending is too much emphasized, little can be saved and, therefore, the future production suffers. With less output spending becomes difficult, for only the national dividend or the things produced can be consumed or spent. On the other hand, if too much is saved the future production becomes great, but as spending is small sufficient demand cannot exist for the increased output. Thus spending and saving are co-related and one cannot be sacrificed for the other. Both are essential, and a proper division of the national dividend for both the purposes is necessary in order to secure the maximum efficiency for each.

Spending has also other effects besides giving satisfaction to the consumer. It gives direction to the production of the country. If people usually buy things, the production of which does not require artistic or high grade labour, the result is the disappearance of the latter and, therefore, degradation of the workers as a class. To the extent that India's demand for silk goods has been supplanted by that for cotton this has been the effect. Similar has been the effect on the producers in India of the demand for standardized goods in the place of the artistic products, the industries for which are rapidly declining. Again, if more is spent on goods which give temporary satisfaction and less on durable goods, the total national wealth suffers, for the former disappear altogether, while the latter give satisfaction over a length of time and, therefore, are included in the inventory

of national wealth. The best spending, therefore, is that on durable goods, the production of which requires high grade and artistic skill and taste on the part of the workers in all cases where the utility from the consumption of durable and perishable goods is practically the same.

Spending of one class of consumers affects also that of other classes of consumers. If the former divert a substantial amount of the productive factors, less of these remain for producing for the consumption of the others. Thus very luxurious living of a few persons may affect the supply of the necessaries of the rest of the community. To the extent that the production of the things of luxury stimulate high grade and artistic labour, there is a social value for that kind of spending. Unfortunately, however, this is not always the case.

From the individual point of view no spending can be waste unless there is miscalculation. For a man pays for a thing up to the margin at which the satisfaction equals the price and he gets consumer's surplus on all the preceding units. But from the social point of view an expenditure may be called waste. It is so called when the satisfaction to the consumer is less than the cost of production undertaken by the community, that is when the consumer's satisfaction is less than what might have been obtained if the productive factors were employed in producing different things for other members of the community.

The Co-operative Store.

In order to regulate the consumption of the members so as to effect the greatest efficiency, and in order to secure commodities as cheaply as possible, co-operative stores are organized, especially for the workers who require help in this matter more than anybody else and who, in manufacturing areas, are very closely associated with one another. In the United Kingdom, as also in some other Western countries such stores have grown to enormous size. The

main principle is embodied in the following definition—A co-operative store is “an association for purposes of joint trading originating among the weak and conducted always in an unselfish spirit on such terms that all who are prepared to assume the duties of membership may share in its reward in proportion to the degree in which they make use of their association.”¹ The members subscribe a small capital for the store, and anybody, member or non-member, can buy from it at market prices. Payment is usually cash and not on credit, in order to encourage thrift among the members. At the end of every year or half-year the profit is divided among the members in proportion to the purchases made by each member from the store, and not according to the share which gets only a small return. Thus members “share in its reward in proportion to the degree in which they make use of their association.” Nowadays the whole of the profit is not so distributed, but a portion is set apart for educational and philanthropic work undertaken for the members and their families. Thus huge funds have been raised for starting night schools, libraries, reading rooms, cinemas, scholarships for the workers’ children, etc. The first society was the Rochdale Society of Equitable Pioneers, started in 1844. In the United Kingdom there is now the Co-operative Wholesale Society which performs for the co-operative stores the same functions which these do for their members. These stores are its customers, and its profit is divided among the stores in the same manner in which their profit is distributed among their members. Thus ultimately the profit of the Wholesale Society reaches the members of the stores. These societies not only set a standard of consumption for their members which is beneficial for them, but also secure the articles at the minimum cost by eliminating the middleman’s profit. They also are managed by the members themselves, and thus generate a spirit of thrift, self-help, and working together in harmony, the moral value of which is very

¹ Fay, *Co-operation at Home and Abroad*.

great The weak thus combine and become strong in the struggle of life against the more powerful classes Thus the status of the weak is raised, and they enjoy a sense of independence and equality which has a value even from the economic point of view

INDIAN CO OPERATIVE STORES In India the consumers' co operation has not succeeded mainly because of the want of business capacity on the part of the members and lack of understanding its benefits The Triplicane Store at Madras has been the only successful organization There have been some other efforts, notably for the mill hands at Calcutta and Bombay, but they have not had the desired success, nor can their success be in any way compared with the great progress made in co-operative credit societies ¹

The Indian standard of living has been dealt with ² It is very low owing to poverty, although it has probably not fallen as a result of the recent rise in prices, as can be seen from the rise in nominal wages ³ The rise in prices has been steady and, therefore, there has been little improvement in the economic condition of the consumers According to the report following on the inquiry into high prices in India the causes of this rise in prices are—(a) causes peculiar to India and (b) causes affecting the whole world The former are—(1) decrease in the production of food stuffs, mainly as a result of the increase in non food crops, especially cotton and jute, (2) increase in the home and foreign demand for raw materials and foodstuffs grown in India, and (3) improvements in the means of communication and the consequent widening of the market for Indian products The latter are—(1) increased supply of gold, (2) development and expansion of credit, (3) destruction of wealth by wars, and (4) expenditure on armaments

Taking the prices of 1873 as 100, the index numbers before the war were—wheat (Delhi) 183 rice (Calcutta) 187,

¹ *Vide ante*, Part III Chapter XVI

² *Vide ante*, Part II Chapter IX

³ *Vide ante*, Part IV, Chapter XXII

rice (Madras) 218, and *bajra* (Delhi) 168. Taking the prices of 1914 as 100, the index numbers for 1925 are—

Foodstuffs :

Cereals	133
Pulses	129
Sugar	159
Tea	153

Textiles :

Raw cotton	212
Manufactured cotton	248
Metals	128
Hides and skins	92
All commodities	158

PART VI PUBLIC FINANCE

CHAPTER XXIV

NATURE AND PRINCIPLES OF PUBLIC FINANCE

PUBLIC finance deals with the expenditure and income of the public authorities of the State, and their mutual relation, as also with financial administration and control. Public authority includes all bodies which help the administration of the State, including the municipalities. The main divisions of public finance are public expenditure, public income, public debts and assets, and financial administration. Thus it is evident that public finance belongs to the category of the science of economics.

Difference Between Public and Private Expenditure.

A characteristic distinction between the adjustment of expenditure and income in the case of a private individual and that of a public authority is that the former attempts to increase his income as much as possible and regulates his expenditure according to the income which he earns, while in public finance the necessary expenditure is first determined upon and the ways and means discovered in order to raise an income sufficient to cover the expenditure. In private or domestic finance a great surplus of income over expenditure is always creditable, while in public finance such a thing would be considered as contrary to sound finance. Thus in the former the main point of view is from the side of income according to the size of which expenditure is regulated, while in the latter the primary factor is expenditure according to the amount of which the income is sought to be raised.

Functions of Government.

From the above it will be seen that in public finance a good deal depends upon what is considered to be the necessary expenditure of the State. Obviously this depends in its turn upon what are considered to be the proper functions of the State. The conception of such functions has varied from time to time. At one time the principle of natural liberty or minimum interference used to be widely accepted. According to this theory the State was to undertake the minimum work and leave individuals free to pursue their economic activity. This minimum was considered to be the maintenance of law and order within the realm, that is—(1) protection against other States, (2) protection from internal disorders, and (3) protection of every member of the State from injustice or oppression by promulgating and maintaining laws. Gradually a fourth was added, viz.—(4) the construction and maintenance of certain public works and institutions, e.g. roads, parks, museums, most educational, sanitary, and medical institutions, which it cannot normally be the interest of individuals to construct and maintain under the stimulus of the ordinary economic motive.

In the last hundred years or so, however, there has come about a great change in the notion of functions of the State, the trend of which has been to include a continually increasing number of economic activities as forming part of the functions of the State. As a result the expenditure necessary to enable the State to perform these increasing functions has also increased and thereby led to an increasing demand for higher income for the State. On the one hand, there are the supporters of natural liberty advocating the minimum work undertaken by the State, and on the other, there are the Collectivists who desire almost every modern form of production to be undertaken by the State.

Maximum Social Advantage.

The true test of determining the functions of the State lies in the principle of maximum social advantage. It is deduced from the Benthamite system of utilitarianism the aim of which may shortly be indicated as the greatest good of the greatest number. The effects of raising revenue are to be balanced against the effects of spending it. The former affects those who contribute towards the revenue while the latter confers benefit upon them. If the latter is great the former may be justified. From this point of view the items of expenditure are to be judged from the standpoint of (1) protection against external attacks internal disorders and social injustice and oppression (2) improvements in the productive power of the community and (3) improvements in the distribution of the national dividend. The measurement of the effects of raising and spending revenue is complicated by the fact that the same amount of loss in money is felt differently by the different classes of the community e.g. the loss of R 10 by a tax is felt more by the poor than by the rich owing to the latter having more and the former less money and therefore owing to the marginal utility of money being less in the case of the latter than in that of the former. From this point of view the State is justified in taking more out of the rich than out of the poor. But there is a limit. The richer classes also produce and produce more than the poorer classes and therefore the production of wealth and the accumulation of capital may suffer as a result of taking more out of the rich. This reduces the national dividend or the total out of which the income of the State is to be derived. In expenditure also the same considerations apply. A fixed amount of benefit confers greater good to the poor than to the rich.

The general conclusions which can be drawn from the theory of maximum social advantage are that in consumption the individual is best left to himself except in

the case of a few harmful articles, e.g. liquor, opium, etc. ; that in production this freedom is good so far as the choice of a profession and the actual processes of production are concerned, but State interference is desirable so far as the person of the producer is concerned, that is, in creating conditions for the health and morals of the workers, e.g. by factory laws ; and that in distribution free competition tends to bring about equitable division of the output provided that the parties are equal in the power of bargaining, so that State interference should try to develop the latter condition, e.g. by allowing combination of the workers into trade unions and facilitating control boards and arbitration councils.

The State can operate in economic activity by two means, viz.—(1) by interfering with the economic activity of individuals, and (2) by itself undertaking some kinds of economic activity. (1) Law can interfere with the economic activity by (i) penalizing certain economic abuses, e.g. slavery, (ii) refusing to enforce certain agreements, e.g. the Usurious Loans Act in India, according to which the court of law can determine what is proper interest in spite of what may have been agreed to, (iii) requiring publicity to be given in certain transactions, e.g. by registration, and (iv) inserting certain provisions in a contract, e.g. factory laws. (2) The State can directly take up economic activity by (i) becoming a monopolist, e.g. post, telegraph, salt, mint, etc., in India, (ii) taking up a portion of a business and encouraging at the same time private enterprise, e.g. educational institutions, agricultural and dairy farms, etc., (iii) enforcing the wishes of the parties when none is expressed, e.g. the law of succession in case of intestacy, and (iv) constructing and maintaining public works, e.g. roads, railways, irrigation canals, etc.

From the principle of maximum social advantage it follows that “ public expenditure should be carried just so far that the marginal social advantages of expenditure in all directions are equal, and just balance the marginal

social disadvantages of all methods of raising additional public income" We have already divided public expenditure and may thus subdivide it further (1) protection to the community from (i) external attacks i.e. armed forces including army, navy, and aircraft, (ii) internal disorders, i.e. military police, police, and in extreme cases, army, (iii) protection from injustice and oppression i.e. justice, civil administration, including ceremonial and philanthropic institutions e.g. maintenance of the head of the State the king or the president, or the governor, and old age pension, poor relief, unemployment provisions, etc., (2) improvements in production i.e. expenditure on education, sanitation medical relief, direct encouragement to production by tariff, subsidy, or bounty maintenance of consuls abroad supply of currency, railways, posts telegraphs, irrigation, etc., and (3) improvements in distribution i.e. expenditure on the poor by taxing the rich, levying taxes more upon the rich than upon the poor, etc

State Income.

The income of the State may be classified into the following categories—

I **QUASI PRIVATE INCOME**, i.e. income which the State receives from sources which are similar to the sources of income of private individuals This may again be divided into—

(A) Income obtained by the State i.e. income which is more or less unearned and does not primarily depend upon its own exertions This consists of—

(1) Income from public domain, i.e. crown lands, *khas* lands and forests in India where lands belong to the State, and therefore the income from them goes to it

(2) Receipts from shares held The State may hold shares in some business especially in a business of public utility, and thus the income comes to the State

(3) Tributes and indemnities, whether as a result of war or of peaceful negotiation, swell the income of the State.

(4) Voluntary loans obtained by the State increase its income for the time being, although these invariably mean future expenditure for the payment of interest and the repayment of the principal.

(5) Voluntary gifts made over to the State either for some public purposes, e.g. maintenance of a park, museum, waterworks, electric lighting, educational institutions, etc., or simply given to the State to help it, e.g. some persons gave away their war bonds to the British Government, some contributed to the funds of the French Government to stop further depreciation of the currency. Examples of the former category are the magnificent gifts of Rash Behary Ghosh and Tarak Nath Palit to the University of Calcutta and that of the late Nawabs of Dacca in erecting waterworks and electric lighting for the town.

(B) Income earned by the State. The State may undertake some business and earn income from it. This may be in two ways, viz.—

(1) Services rendered by the State. The patent right enables individuals who have taken it to prevent others from using their inventions and discoveries. The copyright gives similar protection to authors. In some countries there is a fee charged for the registration of births. Many irrigation canals in India are maintained by the State, and a water tax is levied on those who use it.

(2) Productive enterprises undertaken by the State. The State may directly carry on the production of commodities and earn profits from it. These are distinguished from (B) (1) above by the fact that the former are profits of business while the latter are usually in the nature of fees. Such profits in India are earned from post offices, telegraphs, railways, etc.

II COMPULSORY PAYMENT BY THE SUBJECTS OF THE STATE This income may be classified again under two heads, viz —

(A) Taxation proper¹, and

(B) Others These consist of miscellaneous items, some obsolete and others in operation in modern times They are—

(1) Forced loans In former times the State used to compel individuals to contribute to public loans This item is obsolete now But if there is any repudiation of public debts it really means forced loan with retrospective effect This was done by Russia in 1919

(2) The State compels individuals to make other payments which arise incidentally as part of other duties by the State Under this head come all pecuniary penalties imposed by the courts of law, the charge for punitive police in India, where they are posted in a locality for purposes of suppressing disorders or stopping violent crimes

In levying contributions under II above especially taxation, the important thing to be noted is that the disadvantages of the burden upon individuals calculated in terms of the imposition and its effects do not exceed the advantages to be derived by the State in spending it In other words, the economic margin should be maintained in all cases of such compulsory payment and its expenditure

Public Debt.

Public debt may be classified into productive and unproductive from the narrow point of view of economics That portion which has been spent in such a way as to bring a sufficient income, e.g. that spent on railways, irrigation (productive), etc., may be called productive, whereas that portion which does not bring any such return, e.g. that spent on war, education, poor relief etc., may

¹ *vide* below, Part VI Chapter x^{vi}

be called unproductive. From these illustrations it is evident that an unproductive debt is not always a bad debt, e.g. that spent in a defensive war or on education. Public debt may also be classified into forced loan—rare nowadays—and voluntary loan. A portion of it may be funded debt, that is, debt for the repayment of which an annual sum from the State income is kept aside so that when the time for repayment comes the annual sum and its interest would equal the total. Public debt may be raised within the country or outside it. The latter is especially difficult at the time of repayment, for it cripples the community without any compensation except in abolishing the interest charge, whereas in the case of an internal loan repayment increases the capital of the holders of public securities, which is re-invested by them within the country.

CHAPTER XXV

TAXATION

IN modern times taxation is the most important source of the income of the State. A tax is a compulsory contribution of the wealth of a person or body of persons for service of the public powers.¹

Tax Characteristics

On a careful examination of this definition the following points appear as the essential characteristics of a tax—

1 Its payment is compulsory and does not depend upon the option of the taxpayer. If a tax is evaded its compulsory character does not cease to exist. A tax may be illegitimately evaded e.g. by smuggling or by false declaration of income in which case the law is violated. It may be legitimately evaded e.g. by not consuming or reducing the consumption of the taxed article or service. But as the tax is on consumption no body becomes liable to pay it without consumption and if there is consumption the tax at once becomes compulsory.

2 A tax is a contribution and entails a sacrifice on the part of the taxpayer. Thus it is a deduction from his wealth so far as its payment is concerned although in its expenditure by the State some benefit may accrue to him.

3 The term wealth in this connection is to be taken in its strict economic sense of material goods and non material services. Thus a tax may include conscription services the *begar* system services of the jurors etc.

4 A tax always falls upon persons i.e. the subject of a tax is a person although its object may be property. As a tax is an obligation and a duty it follows that the burden falls on persons. The word person includes

¹ C. F. Bastable *Public Finance* Book III Chapter 1

natural person, e.g. man, and artificial person, i.e. a firm ; the latter also ultimately means individual men.

5. A tax is for the service or benefit of the State. It is meant to cover whatever expenses of the State are not met from other sources of revenue. Of this service the State is the final judge.

6. It is for the public powers. The expression includes all authorities which are legally entitled to levy a compulsory charge in their capacity as public bodies. Thus it includes both central and local taxation ; in India, central, provincial, and local taxation. The levy of the parish or of the municipality is as much taxation as that of the Imperial Government.

A modern feature of taxation is that except in local finance the revenue from no tax is earmarked for any specific purpose. All taxes contribute towards the total income of the State and the expenditure is met from the whole income. In local finance, however, taxes are sometimes earmarked, e.g. education cess, road cess, *chowkidari* cess. There are some charges which are doubtful taxes. (The State may sell articles or services to the public, e.g., posts, telegraphs, railways, irrigation, quinine, etc., in India, or render services by charging fees, e.g. registration, stamps, court fees, etc. Their classification depends upon the amount of the price or fee charged. If it is higher than what would have been charged if they were privately sold, then the excess amount is a *tax*. If it is equal to the private charge it is *price*.) If it is lower the excess of the amount which would have been charged by a private agency over what is charged by the State is really a *bounty* given to the consumers by the State. Public loans again are not immediately taxes, and therefore should not come under taxation. But they always lead to future taxation to meet the interest charge and the repayment of the loans. It is doubtful, however, whether this subsequent payment of the interest and the principal should be called taxation in those cases where they are covered

by the revenue derived out of the productive use of the loans

Canons of Taxation.¹

Adam Smith formulated four canons or rules of taxation and subsequent writers have added more. These canons may be divided into ethical and fiscal canons. The first canon of Adam Smith, variously called the canon of equality or justice or equity, is an ethical rule and must be applied to the tax system as a whole, while the rest are fiscal rules which are to be applied to each tax separately.

The first and the most important canon of taxation formulated by Adam Smith is stated by him thus: "The subjects of every State *ought* to contribute toward the support of its government, as nearly as possible in proportion to their respective *abilities*, that is, in proportion to the *revenue* which they respectively enjoy under the *protection* of the State."

The words italicized in the above statement raise a crop of questions which have been differently answered by various authorities on taxation. The first word *ought* raises the question of the right of the State to tax its subjects. The old theory of English law based this right on the sovereignty of the State, the State or the monarch or his ministers on his behalf having the right to do so by virtue of the supreme power vested in the State. This theory was challenged by the American colonists in the eighteenth century, and the War of American Independence and the foundation of the republic (set up the counter theory that there is no right to taxation without the corresponding right to representation). Thus representation of the taxpayers or the subjects of the State on the legislature is an essential condition of its right to tax them. Now both these theories are combined

¹ *I* *ide* J. S. Nicholson *Principles of Political Economy* Vol III, Book V Chapter III

as a justification of the right of the State to tax its subjects.

The next words italicized are *abilities* and *revenue*. Apparently Adam Smith suggests that the ability of a taxpayer can be measured by his revenue or income. But it is not always so. Several theories have started from this canon of taxation as stated by Adam Smith. These are—

1. *Equality of Sacrifice*. Ability is interpreted as the capacity of bearing sacrifice in the form of taxation. In other words, the tax system—as distinguished from a particular tax—should impose the same burden or sacrifice upon all the subjects. This sacrifice is a subjective thing which varies according to individuals. It seeks to measure the inconvenience or disutility of the persons concerned in paying taxes. (As John Stuart Mill puts it, "equality of taxation, as a maxim of politics, means apportioning the contribution of each person towards the expenses of government, so that he shall feel neither more nor less inconvenience from his share of the payment than every other person experiences from his.") In other words, the marginal disutility from taxation must be equal in the case of all persons. There is no doubt that this is an ideal rule of taxation, but the great practical difficulty is to measure this disutility which is purely subjective. It cannot be measured by the revenue or the income of the person. For example, the income of two persons may be the same but one may be a bachelor without anybody else to maintain, and the other may have the burden of a big joint family on his shoulders. Again, two persons may have the same income and the same expenditure, but one may derive his income from permanent sources, e.g. land, houses, investments, etc., and, therefore has no need to provide for the future, whereas the other may derive his income from terminable sources, e.g. personal effort as lawyer, doctor, cook, coolie, etc., and therefore has to provide for the future when he will cease to earn. Further, two persons may have the same income, the same

equality. There can be little doubt about their validity since they are all supported by both the interpretations of ability, i.e. the theory of equality of sacrifice and the faculty theory of taxation. We state below the conclusions, as also the argument, according to each interpretation which supports them—

(i) The minimum of income required for the necessities of life should be exempted. This minimum varies in different countries according to the standard of living and varies also from time to time. But at any given time this minimum is more or less definite. This amount of income should be exempted from taxation. The reason, according to the sacrifice theory, is that the sacrifice of necessities is incomparably greater than that of luxuries or comforts. So, if a tax is such that it deprives a man of the necessities of life his sacrifice can be equalled by that of the rich only when the latter is taxed so heavily as to wipe away luxuries and comforts and touch the consumption of necessities. As such a tax on the rich will be too high and severely discourage any income above what is required to cover the necessities of the rich, it will very much reduce the total national dividend. Therefore, in order to equalize sacrifices the minimum required for the necessities of life is exempted from taxation. The faculty theory also supports this conclusion inasmuch as a reduction in the consumption of the necessities of life as a result of taxation reduces the efficiency of the man as a producer. This lowers his income, i.e. makes him less able to bear a tax. Thus the sources of public revenue deteriorate if taxation falls on the minimum necessities of life

(ii) Taxation of income should be progressive or graduated. The income above the minimum should not all be taxed at the same rate, but as the amount of the income increases the rate of taxation should increase too. According to the sacrifice theory this is supported because as a man's income increases the marginal utility of money

should be levied on the net profit or net value of the property and not on gross profit or gross value. Otherwise the replacement of capital may be affected, and therefore future profit or value may go down, thus reducing the faculty of the man to pay tax. This corollary is followed in order to leave the factors of production unimpaired by the tax.

(iv) The rate of taxation should vary according to the number of immediate dependents of a man, e.g. his wife and children. That is, two persons with the same income but with different numbers in the family or one a bachelor and the other with a family, should be taxed differently. The ability of these two persons to pay a tax is obviously different whether judged by the sacrifice or by the faculty theory. Such a differentiation incidentally encourages the increase in population and has been an especial feature of the income tax of the European countries after the War.

3. *The Benefit or the Social Dividend Theory of Taxation.* This theory says that the State is entitled to have the tax because of the services rendered by it. This is really sought to be worked as an economic justification of taxation like its political counterpart in the theories of sovereignty and "no taxation without representation." The forms which this theory may take in an actual system of taxation are—

(i) Taxation is the price for the protection rendered by the State. The fourth word italicized in the first canon of Adam Smith is *protection* enjoyed from the State. But the protection that the State gives is more to the poor than to the rich who can better protect themselves in the absence of the State than the poor. Therefore, according to this theory the poor should be taxed more heavily than the rich. This is obviously unjust and impracticable.

(ii) Taxes are paid as part of the social dividend. The State offers security of life, property, etc., and is therefore really an agent of production. Thus it gets a share of

the national dividend in the form of taxation just as land, labour, capital, and organization receive respectively rent, wages, interest, and profit >

(iii) Taxes are only the fees and prices paid for the services rendered by the State, e.g. postage stamps, court fees, registration fees, etc

4 *The Social Function Theory of Taxation* Some taxes are justified on the ground that their effect is improvement of the society in general. Their nature and amount are so regulated as to bring about certain social and political results. Therefore, provision of revenue of the State is not considered to be so important as these results which follow from their imposition. The forms which these taxes may take are various

(i) The object of the protective tariff is not to derive a large revenue but to shut out foreign competition in the home market in order to give special facilities for the growth of home industries

(ii) Heavy duties are imposed on stimulants, e.g. liquor, opium, cocaine, etc. in order to restrict the amount of their consumption

(iii) Succession or death duties are imposed in many Western countries in order to prevent too much concentration of wealth in the hands of one man

5 *The Principle of Formal Justice* This follows from the first canon of taxation. It means that if the State imposes taxes in certain circumstances it should do so in all cases where similar circumstances operate. This corresponds to what is precedent in the administration of law

The first canon of taxation, as already stated, formulates an ethical standard and must be applied to the tax system as a whole and not to each individual tax separately. Thus the minimum income exempted from taxation can be challenged as too high inasmuch as even the beggar consumes some articles of comfort and luxury. On the other hand, the graduation of the tax above the minimum is purely arbitrary and is also open to challenge. The

former is corrected by taxes on articles of consumption which all consumers pay irrespective of their income being exempted or not, and the latter corrected by death or succession duties in the case of accumulated property and too much concentration of wealth, especially in forms which tend to be permanent sources of future income or to bring unearned increment of income.

Other Rules of Taxation.

The other canons of taxation are meant to be applied to each tax individually. The first three of these were formulated by Adam Smith and the rest were developed subsequently. Most of the latter have been formulated by C. F. Bastable. The other rules of taxation are as follows—

1. The canon of *economy* is stated thus by Adam Smith : “Every tax ought so to be contrived as both to take out and to keep out of the pockets of the people as little as possible over and above what it brings into the public treasury of the State.” In other words, the excess of what the subjects pay over what the State receives from the tax should be as little as possible. This excess may be the result of several circumstances.

(i) (A large number of officials may be necessary to collect a tax. Thus the cost of collection may be too high.) In modern times, if it is more than 15 per cent of the total receipts from a tax, it is considered to be too high. Of course, the amount of the cost varies according to the nature of the tax.

(ii) (Almost every tax puts some restraint on trade and production of the country.) The money value of this obstacle should also be considered as part of what the subjects have to pay but what does not reach the State. For example, the tax on transit may bring a small income but cut off a good market from the producer. This entails greater loss upon the latter than the income derived from the tax by the State.

(iii) (If a tax encourages evasion it is likely to lead to bribery and corruption) This amount goes out of the pockets of the subjects without bringing any corresponding gain to the State. Also the cost of collection falls upon the lower receipts due to evasion, and therefore its proportion to the total receipts increases.

(iv) (If a tax causes unnecessary vexation it inflicts a loss upon the subjects to the extent of the money value of such vexation, i.e. the amount which they are prepared to pay in order to avoid the tax.

(v) (If an import duty is imposed on an article which is largely produced in the country as well, without any corresponding excise duty on the home production, the consumers pay the tax on the whole consumption in the form of higher prices due to the tariff, but the State income is earned only upon the imported amount. Thus the tax takes more out of the pockets of the taxpayer than what comes to the State. The greater the proportion of the total consumption that is produced at home, the greater is the amount of this excess over the receipts by the State from the tax.)

2 The canon of *certainly* is thus stated by Adam Smith "The time of payment, the manner of payment, the quantity to be paid, ought to be clear and plain to the contributor and to every other person." The reason for this is two-fold, viz—(i) A producer under competition tends to work at the minimum profit. We have seen how the minimum profit tends under competition to be the maximum. If a tax is uncertain and indefinite he cannot calculate the amount which he has to pay and, at the time of payment, may have to pay an amount which leaves to him a profit which is less than the minimum. This discourages production and increases the risk of business. (ii) Taking advantage of this uncertainty in the tax the collecting officials may arbitrarily exact sums thus increasing bribery and corruption.

The methods of levying a tax are *ad valorem*, i.e.

according to the value of the taxed commodity, and *pro rata*, i.e. according to the quantity of the commodity as measured by the number, weight, or volume. The former is more equitable inasmuch as payment is in proportion to the wealth. Otherwise the same tax involves greater burden upon the worse quality with lower prices than that upon the better quality with higher prices. Thus the Indian tobacco which is of bad quality suffers on importation to the United Kingdom which charges the duty *pro rata*, and therefore Indian tobacco and the better and higher priced tobacco of Egypt and Virginia pay the same amount of the tax by weight. The *ad valorem* tax has the disadvantage that prices of articles keep on fluctuating from time to time, and therefore the tax which is to be paid at the time when it is levied cannot be accurately calculated at the time when the business is contracted for. From this point of view the *pro rata* duty is superior inasmuch as the exact amount of the tax can be calculated from the quantity of the commodity which is moving and which is to pay the tax. The best practical system seems to be a combination of the two systems whenever that is possible. In this system a commodity is classified into different grades according to its quality or value and on each grade a *pro rata* duty is levied. This means that calculation of the tariff is in terms of its value, whereas its actual levy is in terms of its quantity. This makes for certainty in collection at the same time that it retains the merits of the *ad valorem* system. But if there is a permanent change in the relative value of the different grades of the commodity it may work as a hardship upon the appreciated grade. This can be remedied by occasional revision—say, annual revision—of the classification of the commodities into grades by value or quality.

3. Adam Smith states the canon of *convenience* as follows: "Every tax ought to be levied at the time and in the manner in which it is most likely to be convenient for the contributor to pay it." Good government requires

this rule to be followed as being least disturbing to the taxpayer. Also it ensures the least economic friction and therefore the effect upon the trade and production of the country is likely to be the least because the sense of the burden is minimized by the convenient manner in which, and the convenient time when, the tax is collected.

4 A required amount of revenue is more conveniently raised by levying a small number of very productive taxes than a large number of less productive ones. A tax always interferes with the business of the country and has reactions on it more far reaching than the immediate sacrifice of the taxed amount. Therefore the less the number of taxes the less is the interference with the economic activities of the people. Moreover, a large number of taxes is both complicated to administer and costly to collect.

5 A good tax should be such that in case of a larger revenue being sought to be raised from it the cost of collection would not materially increase nor would new machinery for collection be necessary to be set up.

6 (A good tax system should be such that the revenue increases with an increase in the number and wealth of the people.) For example, the revenue from a tax on an article widely consumed increases in this way, and that from the income tax increases with an increase in the wealth of the people.

7 A tax is good the revenue from which is definite so that the Government is able to frame its Budget in advance without running any risk of a sudden reduction in revenue. From this point of view the very high proportion which land revenue bears to the total revenue of the provincial governments in India is a defect.

8 Above all it must be remembered that the object of a tax is not primarily to secure justice or equality or any other of the above rules but its primary aim is to secure adequate revenue for the State. Therefore, the most fundamental merit of a tax is its productiveness.

and it is only in the case of a productive tax that the above rules are to be applied in order to secure justice as between individual taxpayers or to minimize other hardships incidental to the imposition of a tax.

Direct and Indirect Taxes.

Taxes are divided into direct and indirect. A *direct tax* is one which is levied upon a person who it is intended should pay it, e.g. the tax on income. An *indirect tax* is one which is levied upon one person but it is intended that somebody else will pay it ultimately, e.g. the trader or the producer pays the tax on a commodity, which is realized from the consumers. The burden of a tax is called its *incidence* and its transfer from one to another person, as in indirect taxation, is called *shifting*. There may be shifting even in direct taxation, although this is usually not contemplated by the law. For example, a house tax levied on and meant to be paid by the owner may be shifted to the occupier in case of a shortage of supply of houses. On the other hand, an indirect tax meant to be shifted may not be possible of shifting. For example, the dealer in a taxed article with elastic demand may not be able to shift it to the consumers by charging a higher price in a time of depression. The law contemplates shifting only in the case of indirect taxes. These may be levied through the exporter and the importer, when they are called *customs duties*, or they may be levied through the producer, when they are called *excise duties*.

Incidence of Taxation.

Incidence of a tax should, however, be distinguished from its effect, which is of wider import and is more complex in life. The incidence of the import duty on cotton piece goods in India falls upon the consumers, but the effects may be more extensive. The price of cotton piece goods may be pushed up so high that the consumers have to

reduce their demand of other articles in order to buy enough of this necessary article. Thus the producers and traders of other articles may be affected by the import duty on cotton. Both the incidence and effect of a tax are largely determined by the elasticity of demand for the taxed article. If the demand is inelastic the tax falls on the consumers. If it is elastic it falls on the trader and the producer. Usually the demand is between the two extremes of perfect inelasticity and perfect elasticity. Then the tax falls upon the parties according to the greater or less elasticity of demand on the part of the consumers. Thus very heavy taxes on articles of luxury although justified by the canons of taxation, do not become very productive since the reduction in demand is also very great and therefore the incidence of the taxes tends to fall upon the producers.

Tax Systems.

The tax system of a modern State is a combination of direct and indirect taxes supplemented by a third category, viz., charges on transfers and communications. We have seen that the subject of a tax is always a person or body of persons. But its object may be a thing, e.g. income, property, commodities, services etc. According to their object taxes may be classified into *real* and *personal*. A real tax is one the object of which is property, e.g. land, house, goods etc. A personal tax is one the object of which is a person, e.g. income tax, capitation tax, poll tax, etc. This classification of taxes into real and personal is, however, unscientific inasmuch as the subject of all taxes is persons. The charges imposed by a modern tax are usually on land, houses, property and capital, income, customs, excise, communications, stamps and death duties. In framing a good tax system by levying taxes on these items a careful study of the real and apparent incidence is essential for unless the incidence is located it is impossible to apply the canons of taxation, especially the first one of equality.

or justice. The incidence of taxation on the above items is usually as follows¹—

1. *Land*. If a tax on landed profits or property be a part of a general income or property tax, it cannot be shifted and will be borne by the landowner. If imposed as an exclusive tax on cultivating owners, it will even then be apt to remain where first put. If charged on the tenant-farmer, the tax will fall on the landowner in the case of pure competitive rents, and will be divided between the landowner and the tenant in the case of non-competitive rents.

2. *Houses*. A tax on houses levied according to rental value and assessed on the occupier rests in the main ultimately on the occupier unless there is an excess supply of houses, in which case it may be partially or wholly transferred to the owner.

3. *Property and capital*. Owing to the practical difficulty of correct assessment property, except in the forms of taxes on lands, houses, and income, and of death duties, is rarely taxed now. A tax on personal property, which is not capital, cannot be shifted. A tax on mortgages or other loanable capital will as a general rule fall on the borrowers.

4. *Income*. A general income-tax is only a combination of taxes on the separate elements of income, viz., rent, interest, wages, and profits. Its incidence, therefore, depends upon the laws applicable to each separate part. Generally speaking, it cannot be shifted. If a tax on profits be confined to the profits of some particular occupation, it will, in the long run, be shifted to the consumer. If it extends to all profits, it will be borne by the producer. A tax on wages tends to fall upon the workers unless, under trade union influence, it can be shifted to profits.

5. *Customs* and 6. *Excise*. A tax on either absolute

¹ Frederick Alterbury, Article on Taxation in the *Dictionary of Political Economy*, Vol. III.

necessaries or expensive luxuries, whether imposed as an import or an excise duty will be shifted in its entirety to the consumer since a rise in prices will not materially affect the demand. A similar tax on comforts and minor luxuries, that is, the general mass of commodities will be divided between the consumer and the producer in proportions varying with the elasticity of the demand and the ratio of produce to cost. An export duty on exceptional articles like the Indian jute, opium, and rice may partly be passed upon the foreign buyer. Otherwise an export duty falls upon the home producer.

7 *Communications and transport* Railways, posts and telegraphs, and navigable irrigation canals are the three main sources of taxation in India under this head. The tax falls upon the consumer and cannot be shifted.

8 *Stamps* Stamp duties on commercial instruments, such as bills and receipts, usually fall on business profits. Those on transfers of land and other property are probably divided between the buyer and the seller.

9 *Death duties*, or succession duties, or inheritance tax. Such a tax cannot be shifted.

Taxes on Monopolies.

The incidence of taxation of monopoly revenue is somewhat different. It varies also with the nature of the tax. Three varieties are possible. There may be a tax fixed in total amount or a tax varying according to the amount of the monopoly revenue or a tax varying in proportion to the quantity of the monopoly output. The two former fall upon the monopolist. The monopolist is already having the maximum net monopoly revenue. Therefore, if he varies the price or the quantity or both, his income cannot increase. So, his present output must bear the fixed tax or if it is in proportion to his present net monopoly revenue he bears it. But if the tax is levied according to the quantity of the output, it may be possible for him to shift a part or the whole to the consumer. For example, if we

assume that he can produce 2 lacs units with R.6 as the rate of net monopoly revenue, 1 lac units with R.13, and 70,000 units with R.18, his total monopoly revenue would respectively be R.12 lacs, R.13 lacs, and R.12,60,000. Without any tax he would produce 1 lac units and have a monopoly revenue of R.13 lacs. (1) If a fixed tax of R.5 lacs be imposed, it will fall upon him since by a change in price or output he can get either R.12 lacs or R.12,60,000, out of which the tax will have to be paid. Thus his maximum income will be when he produces 1 lac units and earns R.13 lacs out of which he will pay R.5 lacs as the tax. (2) If a tax proportional to the revenue be imposed, say, 10 per cent, then with 2 lacs output he will get R.12 lacs and pay as tax R.1,20,000, the net amount being R.10,80,000; with 1 lac output his profit will be R.13 lacs, the tax R.1,30,000, and the net gain R.11,70,000; with 70,000 output his profit will be R.12,60,000, the tax R.1,26,000, and the net gain R.11,34,000. Thus his maximum profit is obtained, as before, when he produces 1 lac units. (3) But if the tax is proportional to the quantity, say, R.5 per unit, the amount of the tax will be R.10 lacs, R.5 lacs, and R.3½ lacs when he produces 2 lacs, 1 lac, and 70,000 units respectively. Therefore, his net income will be R.2 lacs, R.8 lacs, and R.9,10,000. Therefore, he will now reduce his output to 70,000 units, earn R.12,60,000 as monopoly revenue, pay a tax of R.3,50,000, and get a net income of R.9,10,000. This will make his net income higher by R.1,10,000 than what he can earn (R.8 lacs) if he does not change the quantity of the output. This really means that his net income goes down from R.13 lacs to R.9,10,000 although he pays a tax of R.3½ lacs. In other words, R.3½ lacs *minus* the difference (R.3,40,000) between R.13 lacs, his former income, and R.9,10,000, his present income, i.e. R.10,000, will be the amount which he can shift to the consumer.

Thus if the object is to tax the monopolist the best

CHAPTER XXVI

INDIAN FINANCE

PUBLIC finance in India can be classified into central, provincial, and local. The first is of the Government of India, the second of the various Provincial Governments, and the last of the municipalities, district boards, village unions, etc. Here we are concerned mainly with the first.

Peculiarities of Indian Finance.

The special features of Indian finance are¹—

1. The remittance demand. The political and economic connection of India with England has led to this special feature. The expenditure under this head may be subdivided thus—

(a) The "Home Charges." These consist of the following items: (i) The expenditure of the High Commissioner for India and a part of the expenditure of the India Office are borne by India. (ii) India has to make certain contributions to the British Government for the services of British regimental troops in Indian territories and of the British Navy in Indian waters. (iii) The civil and military officers who retire or go on furlough have to be paid their pensions or allowances in England.

(b) Capital expenditure. This consists of capital borrowed and spent in England, as also the interest charge on it. The items are: (i) The interest on sterling borrowings of the Government of India is to be paid in England. (ii) When the Government of India bought the railways in India the payment in the case of some railways was converted into annuity charges for some years. These have to be met in England. (iii) In the case of some railway companies which manage the State railways in India, any

¹ K. M. Purkayastha, *The A. B. C. of Indian Finance*, Chapter II.

tax would be one fixed in amount or one in proportion to the monopoly revenue. But if it is a fixed amount it is unfair as between two monopolists earning substantially different incomes. If it is in proportion to the net monopoly revenue, the difficulty is to find it out, as it will be necessary to find out his cost of production, and so there may be evasion. On the other hand, the quantity of the output is easy to ascertain and so it can be easily taxed. But this leaves to the monopolist the opportunity of shifting a portion at least of the burden of the tax to the consumer and thus defeat the primary object of the tax viz , to tax the monopolist

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profit made above the guaranteed minimum is shared between the Government of India and the companies. This share of the surplus due to the latter is paid in England as most of the companies are there. (iv) The Government of India purchases a large amount of stores and railway materials outside India and payments for the price lead to remittance on Government account.

(c) The exchange transfer of funds. We have seen that the Government of India fixes and maintains the rate of rupee-sterling exchange and sells Council Bills and Reverse Council Bills for the purpose¹. This creates the obligation on the part of India to handle remittances to and from India.

2 The precarious dependence of the Indian revenue on the agricultural prosperity of the country. This element of uncertainty is introduced into Indian finance because the agricultural products form the bulk of the economic wealth of India. Agriculture depends upon the monsoon and the bulk of the Indian revenue depends upon good harvests. (i) This not only affects land revenue, which is now a provincial item but also other items of revenue. (ii) With the failure of harvest exports decline and therefore the revenue from export duties, i.e. from rice, jute, tea, also diminishes. This direct effect of lower exports is not of much consequence inasmuch as the income derived from export duties is small. (iii) But a fall in exports brings about a fall in imports as well. This reduces the revenue from the import duties which form a very substantial source of central revenue. (iv) Also the prevailing distress among the people as a result of the failure of harvest reduces their purchasing power. Thus there is a general fall in demand for all imported goods. This further reduces the revenue from import duties. (v) Moreover, the trade and production of the country suffer, and therefore incomes of the people go down. Thus the revenue from income tax, which forms the second

¹ *Vide ante* Part III Chapter XXI

important source of central revenue, is reduced. (vi) With a reduction in the income and in the trade and production of the country there is a fall in the railway earnings which form another important source of revenue. The revenue from customs, income-tax, and railways forms about 75 per cent of the total revenue of the Government of India. Thus it is true indeed that the Budget estimates in India are "a gamble in rain."

3. The earnings of the commercial services. These consist mainly of railways, irrigation, and posts and telegraphs. Of these irrigation is now a provincial subject. The revenue derived by the Central Government from railways and posts and telegraphs forms about 22 per cent of the total revenue.

4. The peculiar monetary system. India has the gold exchange standard. To maintain this the Government of India has to sell Council Bills and Reverse Council Bills. This places it in the position of an exchange bank discounting sterling bills at a fixed rate of rupee exchange. This also creates remittance demand which has been noted in 1 (c) above.

Expenditure.

The items of expenditure are thus classified in the Budget of the Government of India—

1. The direct demands on the revenue representing the cost of collecting revenue. These consist of expenditure on customs, income-tax, salt, opium, land revenue, excise, stamps, forests, and registration. They represent a little less than 4 per cent of the total expenditure.

2. The expenditure chargeable to the commercial services. These consist of railways, irrigation, posts and telegraphs, including capital expenditure. They form about 22 per cent of the total.

3. The debt charges. These consist of the ordinary interest excluding the interest for the productive debts which pay for it out of their income, interest on other

divided into (1) defence: naval, military, air; (2) law and order comprising (i) law and justice including (a) judiciary, (b) prisons and convict settlements, and (ii) police; (3) civil administration comprising (i) salaries and allowances of heads of governments or administrations, (ii) the charges of secretariats, (iii) most of the civil services, (iv) expenses of legislatures, (v) salaries and expenses of representatives abroad, and (vi) the cost of collection; and (4) debt services. (II) The secondary expenditure is divided into (1) social, comprising (i) education, (ii) public health, (iii) famine relief, and (iv) similar social services; (2) Government or public undertakings, comprising (i) railways, (ii) irrigation canals, (iii) roads, etc., (iv) posts and telegraphs, (v) telephones, (vi) subsidies for industries and research, (vii) geological and other surveys, and (viii) grants to develop commercial aerial communications: and (3) miscellaneous, comprising (i) pensions, (ii) drawbacks, and (iii) refunds.

The gross expenditure chargeable to the revenue of India, Central and Provincial, is classified in the following table—¹

Heads of expenditure	1871-72	1891-92	1901-02	1911-12	1913-14	1921-22
1. Primary:	74.4	57.2	63.2	61.8	60.3	67.1
(1) Defence	33.4	26.5	28.9	26.5	25.6	32.6
(2) Law and Order:	10.6	8.6	9.4	10.7	10.8	8.6
Law and justice	5.9	4.2	4.9	4.9	5.0	3.3
Police	4.7	4.4	4.5	5.8	5.8	5.3
(3) Civil administration:	14.6	10.7	12.4	12.1	11.7	10.9
General administration	3.8	2.0	2.2	3.3	2.4	4.6
Cost of collection	10.2	7.8	9.1	7.5	7.9	5.3
Political	0.6	0.9	1.1	1.3	1.4	1.0
(4) Debt services:	15.8	11.4	12.5	12.5	12.2	15.0
Productive	3.6	6.6	9.2	9.9	10.4	7.9
Unproductive	12.2	4.8	3.3	2.6	1.8	7.1
2. Secondary:	25.6	42.8	36.8	38.2	39.7	32.9
(1) Social:	2.7	4.2	3.9	5.4	6.8	6.5
Education	1.3	1.6	1.2	2.5	3.7	3.8
Others	1.4	2.6	2.7	2.9	3.1	2.7
(2) Government or public undertakings	12.1	31.8	23.1	24.2	25.7	20.8
(3) Miscellaneous	10.8	6.8	9.8	8.6	7.2	5.6
	100	100	100	100	100	100

¹ G. F. Shirras, *The Science of Public Finance*, Book II, p. 51.

obligations and the sinking fund These form about 14 per cent

4 The cost of civil government This covers about 13 per cent of the total expenditure The items include various heads of expenditure They are civil administration currency mint and exchange civil works and miscellaneous

5 The cost of military services These include army marine and military works The expenditure on this head is 46 per cent of the total

6 Adjustments and extraordinary items

GENERAL STATEMENT OF EXPENDITURE (In lacs of rupees)

Expenditure	Accounts 1913 14	Budget Estimate 1925 26
Direct demands on the revenue	3 16	5 29
Forest and other capital outlay charged to revenue	11	33
Railways	19 25	28 65
Irrigation	10	18
Posts and telegraphs	39	28
Debt services	15 18	18 15
Civil administration	5 16	10 98
Currency mint and exchange	55	73
Civil works	1 59	1 63
Miscellaneous	5 02	4 02
Military services	31 90	60 26
Adjustments between the Central and Provincial Governments and extraordinary items	60	41
Total expenditure charged to revenue	69 69	130 44

The above classification is not scientific and is in some cases overlapping A better classification¹ is according to the functions of the Government The expenditure is divided into two main classes viz—(I) primary and (II) secondary (I) The primary expenditure is

¹ G F Shurra *The Science of Public Finance* Book II Chapter V

divided into (1) defence: naval, military, air; (2) law and order comprising (i) law and justice including (a) judiciary, (b) prisons and convict settlements, and (ii) police; (3) civil administration comprising (i) salaries and allowances of heads of governments or administrations, (ii) the charges of secretariats, (iii) most of the civil services, (iv) expenses of legislatures, (v) salaries and expenses of representatives abroad, and (vi) the cost of collection; and (4) debt services. (II) The secondary expenditure is divided into (1) social, comprising (i) education, (ii) public health, (iii) famine relief, and (iv) similar social services; (2) Government or public undertakings, comprising (i) railways, (ii) irrigation canals, (iii) roads, etc., (iv) posts and telegraphs, (v) telephones, (vi) subsidies for industries and research, (vii) geological and other surveys, and (viii) grants to develop commercial aerial communications: and (3) miscellaneous, comprising (i) pensions, (ii) drawbacks, and (iii) refunds.

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(2) Law and Order:	10.6	8.6	9.4	10.7	10.8	8.6
Law and justice	5.9	4.2	4.9	4.9	5.0	3.3
Police	4.7	4.4	4.5	5.8	5.8	5.3
(3) Civil administration:	14.6	10.7	12.4	12.1	11.7	10.9
General administration	3.8	2.0	2.2	3.3	2.4	4.6
Cost of collection	10.2	7.8	9.1	7.5	7.9	5.3
Political	0.6	0.9	1.1	1.3	1.4	1.0
(4) Debt services:	15.8	11.4	12.5	12.5	12.2	15.0
Productive	3.6	6.6	9.2	9.9	10.4	7.9
Unproductive	12.2	4.8	3.3	2.6	1.8	7.1
2. Secondary:	25.6	42.8	36.8	38.2	39.7	32.9
(1) Social:	2.7	4.2	3.9	5.4	6.8	6.5
Education	1.3	1.6	1.2	2.5	3.7	3.8
Others	1.4	2.6	2.7	2.9	3.1	2.7
(2) Government or public undertakings	12.1	31.8	23.1	24.2	25.7	20.5
(3) Miscellaneous	10.8	6.8	9.8	8.6	7.2	5.6
	100	100	100	100	100	100

¹ G. F. Shirras, *The Science of Public Finance*, Book II, p. 51.

The variation in the percentage distribution of net expenditure (central and provincial), i.e. gross expenditure minus the revenue, in a few countries is given below—¹

Heads of expenditure	India		The United Kingdom		France		Japan	
	Pre war	Post war	Pre war	Post war	Pre war	Post war	Pre war	Post war
Cost of collecting revenue	9.1	8.2	2.6	0.8	†	†	1.7	1.2
Defence	21.4	26.8	44.7	26.8	40.3	11.8	35.4	47.9
Pensions including war pensions	8.1	6.8	8.0	11.1	7.6	15.8	5.8	3.6
Debt services	12.8	14.0	14.1	42.4	21.5	22.0	26.3	10.0
Education	3.8	4.1	11.0	4.3	8.2	5.0	2.0	2.7
Civil administration	25.8	23.4	18.8	6.6	21.6	6.6	28.8	34.6
Deficit on quasi-commercial undertakings	—	—	—	0.3	—	3.0	—	—
Others	19.8	16.6	0.8	17.7	0.8	37.8	—	—
Total	100	100	100	100	100	100	100	100

† Included in civil administration or others

We shall consider here a few of the important items of expenditure of the Central Government (1) The military expenditure The following table shows the growth of military expenditure in India—

Year	Expenditure £
1859-60	19 300 000
1861-63	12 500 000
1900-01	15 000 000
1913-14	19 800 000
1925-26	45 200 000

In 1913-14 the military expenditure absorbed 30 per cent of the total central expenditure Now it is 46 per cent.

2 The expenditure on civil government The departments and the services under the control of the Central Government are unimportant, the main item being the general administration

3 The exchange The gain or loss by exchange represents the difference between the accounts rate of exchange, i.e. the official or legal rate, and the actual rate

¹ G. F. Shurras *The Science of Public Finance* Book II p. 54

at which remittances are made. Since 1917-18 the discrepancies between the two rates has been wide. At present (December, 1926) the legal rate is 2s. gold and the actual rate is 1s. 6d. gold

4. Railways. All the important railways except the B.N.W. Railway are owned by the State. Originally the guaranteed system was followed¹. When the State bought the railways in exercise of its powers under the contract with the companies, the purchase money was paid by raising a loan or arranged to be paid in annual instalments covering some years. The latter is annuity payments, more than one-fourth of which have been paid off. The former is to be paid by a sinking fund towards which an annual contribution is made out of the revenue. The present sinking fund covers more than one-half of the original loan. The new capital for railways is usually raised by loan. A portion of the railway capital was contributed by the companies. Also there are certain subsidies and free gifts of land to some private companies. Thus the railway expenditure consists of (i) annuity payments, (ii) sinking fund, (iii) interest on capital borrowed by the State, (iv) interest on capital contributed by the companies, and (v) miscellaneous, including subsidies and free gifts of land. Since 1923 the railways have become an important source of revenue.

Public Debt.

The public debt of India consists of the productive and ordinary or unproductive debt. The former is what yields or is expected to yield a revenue and includes expenditure on railways, irrigation, and posts and telegraphs. In 1867 was started the practice of providing funds for capital expenditure by loans. (1) In that year the only item was barracks. (2) After the Orissa famine of 1866 irrigation was added, and canals, reservoirs, etc., were built with funds raised by loans. (3) In 1870-71 when it was

¹ *Vide ante*, Part II, Chapter VII.

decided to drop the guaranteed system of railways this item was added to the list. Since 1879 the expenditure on productive works has been systematically pursued and an annual expenditure from loans of R 2½ crores or R 3½ crores has been provided. This was curtailed during the war. Since 1922 a five years programme of R 150 crores on railways is being followed on the recommendation of the Acworth Railway Committee. (4) In 1911 the construction of the new Delhi was provided from loans and more than R 10 crores has been already spent on it. (5) In 1921-22 the major portion of the capital expenditure on posts and telegraphs was decided to be met out of loans.

As a result of this continuous programme of capital expenditure met from loans the public debt of India has steadily grown in size. This growth can be seen in the following table—

Year	Public debt
1857	£35 000 000
1859	74 000 000
1861	97 800 000
1875	122 000 000
1893	175 300 000
1908	214 000 000
1914	274 200 000
1923	240 000 000 and
	R 4 210 000 000
1925	£296 500 000 and
	R 3 701 800 000

Thus the increase of the public debt over that of 1914—the pre war figure—is more than 109 per cent.

Revenue.

Following the Budget headings the revenue of the Government of India can be classified thus—

1 The revenue from the fiscal group or those representing revenue proper. This is shown in the Budget as the principal heads of revenue and includes the receipts from customs, income tax, salt, opium and revenue, excise stamps, forests, registration, and tributes from Indian States. These form about 58 per cent of the total revenue of the Central Government.

2. The revenue from the commercial services. These include the railways, irrigation, and posts and telegraphs. The percentage of receipts from these items to the total is 27.

3. The revenue from the administrative heads. These include interest, civil administration, currency, mint, and exchange, civil works, miscellaneous, and military department. The revenue from these items forms a little less than 10 per cent of the total.

4. The revenue from provincial contributions and extraordinary items. This forms 5 per cent of the total revenue.

GENERAL STATEMENT OF THE REVENUE
(In lacs of rupees.)

Revenue Heads	Accounts 1913-14	Budget Estimate, 1925-26
Principal heads of revenue :		
Customs	11,14	46,35
Taxes on income	2,90	17,35
Salt	5,15	6,95
Opium	2,43	3,55
Other heads	1,82	2,23
Railways	26,43	23,89
Irrigation	6	10
Posts and telegraphs	87	68
Interest receipts	1,14	3,60
Civil administration	34	72
Currency and mint	1,21	4,08
Civil works	7	10
Miscellaneous	31	43
Military receipts	2,05	4,01
Provincial contributions and extra-ordinary items	9,83	6,60
Total	65,78	130,68

Another, and probably a better, classification of the revenue is into (a) tax and (b) non-tax revenue¹.

(a) Tax revenue is divided into (1) receipts from direct taxes and (2) those from indirect taxes. (1) Direct taxes include land revenue and income-tax. (2) Indirect taxes

¹ *Vide G. F. Shirras, The Science of Public Finance, Book III, Chapter XIII.*

include customs, excise, salt tax, opium licence fees, stamp and registration fees

(b) Non-tax revenue comprises receipts from (1) Government or public undertakings, (2) social services, (3) debt services, and (4) miscellaneous (1) Government or public undertakings include railways, irrigation, public works, posts, telegraphs, telephones, mints, stationery, printing, forest, etc (2) Social services include education, hospital, sanitation, etc (3) Loans or debt services arise where the State lends money (4) Miscellaneous includes military receipts, exchange, receipts in aid of superannuation etc

The percentage distribution of gross revenue of India, central and provincial, can be seen in the following table¹—

Heads of revenue	1871-72	1891-92	1911-12	1913-14	1921-22
(a) Tax revenue	89.4	65.1	63.1	60.4	66.7
(1) Direct taxes	44.1	33.5	28.5	28.3	30.0
Land revenue	41.0	26.9	25.1	25.1	17.2
Other direct taxes	3.1	6.6	3.4	3.2	12.8
(2) Indirect taxes	45.3	31.6	34.6	32.1	36.7
(b) Non tax revenue	10.6	34.9	36.9	39.6	33.3
(1) Government or public undertakings	5.0	30.3	31.5	34.3	22.9
(2) Social services	—	0.3	0.3	0.4	0.4
(3) and (4) Other sources	5.6	4.3	5.1	4.9	10.0
Total	100	100	100	100	100

Tax revenue forms about 58 per cent, and non tax revenue about 42 per cent of the total revenue of the Central Government. Of tax revenue, again, the income from direct taxes is about 30 per cent and that from indirect about 70 per cent. Of non tax revenue the most important item is the railway receipts which form about 62 per cent of the total under non-tax revenue.

¹ Vide G. F. Shirras *The Science of Public Finance*, Book III, p 120

We shall deal here with a few of the important items of revenue. (1) Land revenue. Although land revenue is now a provincial item, its importance in the Indian tax system is so great that a few words should be said about it although we are primarily concerned with the revenue of the Central Government. The land revenue varies from province to province as also according to the nature of the settlement¹. The incidence of land revenue per acre of fully assessed land is as follows²—

Province	Permanent Settlement	Temporary Settlement	
		Zamindari	Ryotwari
	R. A. P.	R. A. P.	R. A. P.
Bengal	0 9 0	1 2 9	—
Bihar and Orissa	0 4 4	0 13 0	—
Assam	0 1 6	1 4 8	2 0 8
The United Provinces :			
Agra	0 15 0	1 3 0	—
Oudh	0 14 1	1 4 2	—
Madras	0 10 3	—	1 14 5
Bombay	—	0 8 0	1 3 8
Sind	—	—	2 1 9
The Punjab	—	0 15 0	—
The Central Provinces	—	0 6 6	0 3 10
Berar	—	—	1 1 9

The incidence of land revenue per head of the population is R.16.

2. Income-tax. It was first introduced as a temporary measure in 1860. In 1916 the principle of progression or graduation was introduced, the exempted minimum being raised to incomes below R.1,000 per annum. The rate was as follows : Income from R.1,000 to below R.2,000 at 4 pies in the rupee, that from R.2,000 to below R.5,000 at 5 pies in the rupee. These were the existing rates. Further graduation was made for higher incomes. The rate of income from R.5,000 to below R.10,000 was 6 pies, that for income from R.10,000 to below R.25,000 at 9 pies,

¹ For a description of the various settlements *vide ante*, Part IV, Chapter XIX.

² G. F. Shirras, *The Science of Public Finance*, p. 226.

and that for income of R 25 000 and upwards at 1 anna in the rupee. In 1917 a super tax was imposed on incomes higher than R 50 000 in addition to the income tax. The graduation was (i) the first assessable R 50 000 at the rate of 1 anna in the rupee (ii) the next R 50 000 at $1\frac{1}{2}$ annas (iii) the next R 50 000 at 2 annas (iv) the next R 50 000 at $2\frac{1}{2}$ annas and (v) all incomes above that at 3 annas in the rupee. In 1919-20 an excess profit tax was imposed which was abolished in the following year. In 1919-20 the assessable income was raised to incomes below R 2 000 per annum. This freed 237 000 out of 381 000 taxpayers with a loss of income of only R 75 lacs. In 1920-21 the super tax on the undivided profits of companies was converted into a corporation tax with a maximum rate of 1 anna in the rupee. This discrimination between divided and undivided profits was made to encourage the latter which are added to the working capital.

3 Customs. The general rate since 1896 was $3\frac{1}{2}$ per cent on imports. In 1916 it was raised to $7\frac{1}{2}$ per cent machinery (except for cotton industries) being taxed for the first time at $2\frac{1}{2}$ per cent sugar at 10 per cent. In 1917 the import duty on cotton was raised to $7\frac{1}{2}$ per cent excise remaining at the old rate of $3\frac{1}{2}$ per cent. In 1921 the general rate was raised to 11 per cent sugar to 15 per cent matches and certain articles of luxury to 20 per cent. In 1922 the general rate went up to 15 per cent the cotton duty remaining at 11 per cent and the excise at $3\frac{1}{2}$ per cent railway materials and iron and steel to 10 per cent sugar to 25 per cent and matches and luxuries to 30 per cent. In December 1925 the excise duty on cotton was abolished.

The export duties are small in number. The duty on rice jute and tea is 3 per cent and that on hides and skins is 5 per cent if exported to other parts of the British Empire and 15 per cent if exported outside the Empire.

4 Salt. The salt tax had a chequered career in the nineteenth century. In the beginning of the twentieth

century it was R.2 as.8 per maund. In 1903 it was reduced to R.2, in 1905 to R.1 as.8, and in 1907 to R.1. In 1916 it was raised to R.1 as.4, and in 1923 to R.2 as.8. Since 1924 it has been at R.1 as.4.

In most parts of Northern India and a part of Madras the production of salt is a Government monopoly and the tax is charged on the price before sale. In Bombay and Madras licence is granted to private producers and the duty is levied as excise. Thus the source of revenue from salt is three-fold, viz.—(i) import duty, (ii) excise, and (iii) sale by the State.

5. Opium. The monopoly is vested in the State which gives licence for cultivation but itself manufactures and sells opium. Since 1913 the cultivation of opium has decreased very much owing to the treaty with China.

6. Railway revenue. Up to the beginning of the present century the railways always showed deficits. The figures for capital, gross earnings, working expenses, and net earnings are as follows—

Year	Total Capital outlay (in crores of R.)	Gross earnings (in crores of R.)	Working expenses (in crores of R.)	Percentage of working expenses to gross earnings	Net earnings (in crores of R.)	Percentage of net earnings to total capital outlay
1913-14	495.00	63.58	32.92	51.79	30.66	6.19
1920-21	626.80	91.98	60.29	65.54	31.69	5.06
1924-25	733.37	114.75	69.36	60.45	45.39	6.19

The financial results of the various countries are set out in the following table¹—

Country	Year	Capital (000,000)	Working expenses (000,000)	Net earnings (000,000)	Percentage to capital of	
					Working expenses	Net earnings
India	1922-23	R.6,690	R.730	R.330	10.9	4.9
The United Kingdom	1920	£1,328	£262	£53	19.7	4.0
The United States	1922	\$22,300	\$4,500	\$1,100	20.0	5.2
Japan	1920	Y.1,188	Y.271	Y.78	22.8	6.5

¹ G. F. Shirras, *The Science of Public Finance*, p. 427.

Provincial Finance

The main sources of revenue and heads of expenditure of the Provincial Governments are as follows—

REVENUE	EXPENDITURE
<ol style="list-style-type: none"> 1 Principal heads of revenue <ul style="list-style-type: none"> Land revenue Excise Stamps (other than those fixed by the Central Government) Forests Registration Scheduled taxes 2 Irrigation 3 Interest 4 Civil administration <ul style="list-style-type: none"> Administration of justice Jails and convict settlements Police Ports and pilotage Education Medical Public health Agriculture Industries Miscellaneous 5 Civil works 6 Miscellaneous <ul style="list-style-type: none"> Receipts in aid of superannuation Stationery and printing Miscellaneous 7 Adjustments between the Central and Provincial Governments 8 Extraordinary receipts 9 Capital account not charged to revenue <ul style="list-style-type: none"> Debts deposits and advances Opening balance Miscellaneous 	<ol style="list-style-type: none"> 1 Direct demands on the revenue i.e. the cost of collecting the revenue under the principal heads of revenue on the revenue side 2 Irrigation 3 Debt services 4 Civil administration <ul style="list-style-type: none"> General administration Administration of justice Jails and convict settlements Police Ports and pilotage Scientific departments Education Medical Public health Agriculture Industries Miscellaneous 5 Civil works 6 Miscellaneous <ul style="list-style-type: none"> Famine relief and insurance Superannuation allowances and pensions Stationery and printing Miscellaneous Provincial contributions to the Central Government Adjustments 7 Capital account not charged to revenue <ul style="list-style-type: none"> Construction of irrigation works Debts deposits and advances Closing balance Miscellaneous

The scheduled taxes are those which the Provincial Governments may impose at their choice without the previous sanction of the Governor-General. They are: (1) tax on land other than agricultural, (2) tax on succession or acquisition by inheritance, (3) tax on betting or gambling, (4) tax on advertisements, (5) tax on amusements, (6) tax on any specified luxury, (7) registration fee, and (8) stamp duties other than those fixed by the Central Government.

The following table shows the income and expenditure of the various Provincial Governments in 1925-26—

Province	Budget estimates (in thousands of rupees)
Bengal	12,16,60
Bombay	16,10,40
Madras	18,32,89
The United Provinces.	16,01,40
The Punjab	13,92,73
Burma	12,82,28
Bihar and Orissa	7,57,30
The Central Provinces and Berar	8,65,04
Assam	2,71,46

The principal sources of revenue according to the Budget estimates of 1925-26 are as follows (in lacs of rupees)—

Province	Land revenue	Excise	Stamps	Interest	Justice	Jails	Educa- tion
Bengal	3,11	2,31	3,41	3	13,7	13	10
Bombay	5,60	4,69	1,84	1,59	16	4,8	9,7
Madras	7,50	4,99	2,38	17	14	7	6
The United Provinces	6,59	1,51	1,64	11	13	6	9
The Punjab	2,81	1,14	1,11	6	9,7	4,8	11,5
Burma	5,36	1,28	1,95	12	9,8	6	4,7
Bihar and Orissa	1,64	1,81	1,01	6	4	5,7	5
The Central Pro- vinces and Berar	2,30	1,55	72	1,8	5,6	3	4,8
Assam	1,04	74	20	5	1,7	1	1,5

The principal items of expenditure according to the

Budget estimates of 1925-26 are as follows (in lacs of rupees)—

Province	General adminis- tration	Debt services	Justice	Police	Educa- tion	Civil works	Provin- cial con- tribution
Bengal	1 24	~ 8	1 13	1 89	1 31	1 20	—
Bombay	2 28	2 56	76	4 74	2 08	1 14	34
Madras	2 24	83	97	1 93	1 86	95	2 22
The United Provinces	1 31	58	68	1 61	1 71	54	1 84
The Punjab	1 08	~ 1 6	57	1 09	1 42	1 13	1 14
Burma	1 03	~ 15	62	1 39	90	1 16	64
Bihar and Orissa	72	3 5	38	83	76	77 5	—
The Central Pro- vinces and Berar	63	8	31	57	54	72	22
Assam	26	~ 16	8 6	24	24 5	6 8	9

Local Finance.

The local bodies which raise revenue and expend money consist primarily of municipalities, district boards, village unions, and port trusts. Of the municipalities the most important sources of revenue are municipal property, contributions from provincial revenue, and local taxes, rates, fees, etc. The total number of municipalities in India are 738, and their total income is about R 13 crores. The main heads of expenditure are conservancy, public works, water supply, drainage, and education.

The incidence of municipal taxation per head of the population is as follows—

1	Presidency towns	R	A	P
	Calcutta	12	7	6
	Bombay	14	8	6
	Madras	6	10	4
	Rangoon	13	7	6
2	District Municipalities			
	Bengal	2	11	7
	Bihar and Orissa	1	9	4
	Assam	2	5	9
	Bombay and Sind	3	13	4
	Madras	2	0	3
	The United Provinces	2	5	9
	The Punjab	4	2	8
	The Central Provinces and Berar	2	15	1
	Burma	2	13	7
	The N W Frontier Provinces	6	2	9

Of the district boards the most important source of revenue is local rates. Their total number is 219 district boards with 543 sub-district boards and more than 800 unions. The total income of all these is about R.11 crores. The main heads of expenditure are education, civil works, e.g. roads and bridges, and medical relief.

The port trusts are bodies which are entrusted with the administration of the important ports in India. These are of Calcutta, Bombay, Madras, Karachi, Rangoon, and Chittagong. The income, expenditure, and capital debt of the port trusts can be seen in the following table—

Port Trust of	Income (in lacs of rupees)	Expenditure (in lacs of rupees)	Capital debt (in lacs of rupees)
Calcutta .	2,61	2,62	16,38
Bombay . .	2,70	2,71	22,24
Madras . .	30	28	1,46
Karachi . .	70	61	3,35
Rangoon . .	73	66	3,73
Chittagong .	5	4	4

From the above figures it is to be noted that the municipalities in the Presidency towns have developed well, and those in districts are making satisfactory progress. As compared with the vast rural areas administered by them the district boards have too small funds at their disposal. The ports, especially Calcutta and Bombay, have made good progress.

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